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ABSTRACT

The report summarizes a year long observational study of special education programs in one district's 12 elementary schools (Queens, New York). Data were gathered using observational time samples of teacher, student, and paraprofessional activity and student time on task; descriptive notes of the classroom context; ratings of 15 dimensions of instruction; and teacher questionnaires. It was found that the resource room program was, on average, significantly more effective than the self-contained special education program in terms of teachers' more effective use of time, greater opportunity for individual contact between student and teacher, and greater time on task. Individual seatwork was the most frequent student activity in special education, and this trend was accompanied by a de-emphasis on teacher-led lessons. Selection and implementation of appropriate curriculum varied across groups. Some techniques (including contingent reinforcement, teaching for generalization, and use of self-correcting materials) were rarely observed. In general, paraprofessionals were not used wisely. Comparisons were made between students in resource rooms and their nonhandicapped peers. A series of thirteen recommendations were made based on findings, including expansion of the resource room program, de-emphasis of individual seatwork, and clarification on the role of paraprofessionals. (CL)

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# Special Education Programs in District 27: Teacher Activity, Student Activity, Student Time on Task, and Program Structure

by

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# Special Education Programs in District 27: Teacher Activity, Student Activity, Student Time on Task, and Program Structure

## Summary

This summary briefly outlines the findings of a year-long research study of the special education programs in District 27. (For further information, refer to the detailed report on which this summary is based.) Several district concerns regarding the rapidly expanding special education programs were addressed by this study:

- How do teachers organize their own and their students' time during instructional periods in special education programs?
- How is paraprofessional time utilized in those programs which contain paraprofessionals?
- What factors influence student time on task?
- What are the major differences and similarities between resource rooms and self-contained special education classrooms in terms of teacher activity, student activity, student time on task, program structure, and curriculum?
- What are the characteristics of "model" resource rooms and self-contained classrooms? What factors detract from the optimal functioning of these programs?
- How well do resource room students stay on task in regu-

lar education, and what factors influence their performance?

Four types of special education programs serving mildly to moderately handicapped students of normal intelligence were observed: CEH, NIEH, HC30, and resource room classes. Resource room children were also observed within their regular education homerooms. Twelve elementary schools representative of the geographic and socioeconomic diversity of the district were selected for the study. Within these schools, 15 CEH/NIEH teachers, 15 HC30 teachers, 16 resource room teachers, and 26 regular education teachers were observed on 217 separate occasions between October 1982 and April 1983. Observations were spread across subjects, times of the day, and days of the week.

Data were gathered using: (1) observational time samples of teacher, student, and paraprofessional activity and student time on task; (2) descriptive notes of the classroom context; (3) ratings of 15 dimensions of instruction; and (4) teacher questionnaires.

## Results

### Model Classrooms

Fourteen special education teachers (CEH, NIEH, HC30, and resource room) were identified as model teachers--that is, highly effective in their particular program on the dimensions examined by this study. These teachers represent a source of strength within the District 27 special education program and are a potential resource for the district.

A Comparison of Resource Rooms and Self-Contained Classes

Although some self-contained classrooms observed were highly effective and some resource rooms displayed several "problem" characteristics, the resource room program was, on average, significantly more effective than the self-contained special education program on several dimensions examined. Resource room teachers used time more efficiently and devoted more teacher and student time to instruction than the self-contained special education programs. Students were given more opportunity for one-to-one contact with the teacher and for individual responding. Students in resource rooms also displayed superior on-task behavior and received more teacher support (attention, feedback, and reinforcement) for their efforts, which certainly could have influenced student time on task.

Individual Seatwork and Teacher-Led Lessons

The most frequent student activity in special education was individual seatwork. In some cases, the seatwork coordinated with a previous teacher-led lesson. In other cases, the seatwork was used not as a practice activity but to present new information, concepts, or skills. Often, no verification that the students had actually learned the desired concept or skill was seen, although the worksheets were checked for correctness.

The emphasis on individual seatwork in most classrooms was accompanied by a corresponding deemphasis on teacher-led lessons. In many classes, no teacher-led group lessons at all were observed.

Selection of the Curriculum

In some special education classes, the observed curriculum appeared appropriate. The curriculum followed a clear sequence, was related to previously learned skills, and was within the students' abilities. The activities selected to implement the curriculum were neither too hard nor too easy. Unfortunately, in other classrooms, the teachers were unfamiliar with the curriculum content. The curriculum appeared selected at random rather than linked to student learning needs, and the teachers did not know where the students were functioning in relation to the curriculum. Emphasis in these classes was on completing work rather than on learning skills.

Infrequently Used Instructional Techniques

Although occurring in many model classrooms, the study's findings revealed that the following techniques were rarely used in the majority of district classrooms: within-class groupings; special techniques (removal of distractions, verbal cues and prompts, teacher made materials, self-correcting materials, physical prompts, instruction matched to students' perceptual modalities); contingent reinforcement; teaching of socialization skills; teaching for generalization; and collection of data.

Paraprofessionals

Some paraprofessionals were used very effectively to provide small group instruction to students, to increase the amount of feedback to students, to monitor students, etc. In other words, they made a significant contribution to the instructional pro-

gram. On average, however, paraprofessionals were not used well and their presence in the classroom was not associated with any significant increase in the quality of instruction or student time on task. Their presence was furthermore associated with an increase and not a decrease in the amount of teacher time spent on routines, materials preparation, etc. It is possible that many of the paraprofessionals observed lacked skills in instruction and in interacting with students, and the teachers may not have been able to train them to work more effectively in the classroom.

Resource Room Children in Regular Education

1. Many resource room children were on task equally as well as regular education students.

2. The average time on task for resource room students was significantly lower than that of their nonhandicapped peers, but the magnitude of this difference was small. Any discrepancy, however, is of concern because of its potential cumulative effect.

3. The resource room children observed were no more disruptive than their nonhandicapped peers, and were not disciplined or removed from the class more often. Any presumption that these children behave far worse than their peers was not supported.

4. Overall class time on task had only a slightly positive effect on the on-task behavior of the resource room children.

5. The regular education teacher's techniques, class

arrangement, and attitudes had a great impact on the ability of the resource room students to perform well in the regular classroom. In other words, their performance was affected by more than their ability in academic subjects.

6. There was minimal contact between the resource room and regular education teachers. Teachers responding to the questionnaire requested more contact.

7. Carryover of skills learned in the resource room into regular ecucation was a problem. This problem was compounded by the lack of teacher-teacher contact; poor coordination of the curriculum; and lack of specific teaching for generalization. It was therefore not surprising that children tended to stay on task and achieve more in the resource room than in regular education.

8. The typical teacher and student activities in resource rooms and regular education classrooms were different. This discrepancy, while perhaps unavoidable and even desirable, may affect the ability of some resource room students to function well in both environments.

## Recommendations

1. Model teachers within special education programs should be utilized within the district's ongoing staff development and curriculum improvement efforts.

2. The resource room program should be continued and if possible expanded. Where student academic skills and behaviors are sufficient, children in self-contained classrooms should be considered for placement in resource rooms.

3. The role of seatwork in the overall curriculum, and its relationship to teacher-led lessons, needs to be clarified.

4. Student completion of seatwork must be accompanied by teacher verification that students have indeed learned the concepts supposedly practiced in seatwork activities.

5. Special education students should be taught new concepts in teacher-led groups. There needs to be a balance among the proportion of teacher-led lessons, one-to-one instruction, and individual seatwork.

6. The curriculum selected should be related to students' learning needs and goals, as written in their IEPs.

7. Teachers appear to need strategies for selecting and implementing curricula at different student skill levels.

8. Staff development should focus on increasing the use of the following, which were seldom observed: within-class groupings, special teaching techniques, contingent positive reinforcement, collection of data, teaching of socialization skills, and teaching for generalization.

9. The district's policy on the use of paraprofessionals needs to be clarified and implemented within the district classrooms.

10. More contact between regular education and resource rooms teachers needs to occur.

11. Coordination between the regular education and resource room curricula should be facilitated.

12. Efforts should be made to ensure that resource room

children generalize the skills they learn into the regular education classroom.

13. The regular education classrooms serving handicapped children should be individually selected.

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# I. Introduction

This report summarizes the findings of a year-long study of special education programs conducted in District 27, one of 32 community school districts within New York City. The impetus for the study came from the District 27 administration. Given the rapid growth of special education programs within the district in recent years, the administration wanted to gather information about how these programs are structured and how well they are functioning. Particularly, the cistrict was interested in answering the following questions:

- How do teachers organize their own and their students' time during instructional periods in special education programs?
- How is paraprofessional time utilized in those programs which contain paraprofessionals?
- What factors influence student time on task?
- What are the major differences and similarities between resource rooms and self-contained classrooms in terms of teacher activity, student activity, student time on task, program structure, and curriculum?
- What are the characteristics of "model" resource rooms and self-contained classrooms? What factors detract from the optimal functioning of these programs?
- How well do resource room students stay on task in regular education, and what factors influence their performance?

The study described in this report was undertaken to help the District answer the above questions. Information from the study was designed to contribute to district decisions about personnel preparation, resource allocation, staff development, and pupil placement. The study was necessarily broad in scope and did not examine one issue in detail. The results of the study are presented in terms of group averages. Since every classroom, teacher, and student diverges from these averages, this study is not meant to be the sole basis for recommendations for particular classrooms or students.

## II. Methodology

### A. Description of District, Schools, and Programs

The study gathered information in twelve elementary schools (K-6) throughout District 27. District 27 encompasses a large geographic area, including a peninsula several miles from the "mainland," and serves students from upper middle to lower socioeconomic status. It is comprised of students from a variety of racial and ethnic groups. The twelve schools selected were chosen to represent the geographic, ethnic, and socioeconomic diversity of the district. The schools also varied in scores on district-wide standardized tests of reading achievement; in six schools, at least 50% of the students were reading at or above grade level, while in the other six schools, less than 50% of the students were reading at or above grade level.

Four types of special education programs serving mildly to moderately handicapped students were observed: CEH, NIEH, HC30, and resource room classes. The students placed in these programs are similar in that they have tested intelligence within normal limits and have no sensory or physical deficits. These programs were selected because they serve students with the most frequently occurring types of handicapping conditions. In recent years there has been an increase in the number of students placed in all these programs, and in resource rooms in particular. Since the district also wanted to assess the functioning of resource room children in their regular education "homerooms," regular education classes were also observed.

The following are brief descriptions of the programs studied, taken from "Eligibility Criteria and Program Descriptions" (Board of Education of the City of New York, Division of Special Education). HC30 classes contain students with medical evidence of brain injury. These students are of potentially normal intelligence and do not test as mentally retarded. They have learning difficulties that seem to be attributable to perceptual disorders. Emotional disturbances and seizures, if present, do not preclude successful participation in a classroom. These children are independent in toileting, feeding, and dressing. Ten students is the maximum class size in HC30 classrooms, and no paraprofessional is assigned.

NIEH classrooms contain students diagnosed as neurologically impaired and emotionally handicapped who also have perceptual disabilities. They are classified as being of normal or potentially normal intelligence and are able to adapt to a group classroom situation. These students are placed in self-contained special education classrooms containing one teacher, one paraprofessional, and up to 10 students.

CEH classrooms contain students for whom an emotional disturbance is the predominating handicapping condition and where there is no medical evidence of brain damage. These students are placed in self-contained special education classrooms containing one teacher, one paraprofessional, and up to 10 students.

HC30, CEH, and NIEH students may be integrated into regular education on a limited and individual basis.

Since both the CEH and NIEH classrooms contain a paraprofessional, and since the main difference between these two groups is neurological evidence of organic brain damage rather than any observable learning or behavioral differences, these two types of programs were grouped together for purposes of data collection and analysis.

Resource rooms serve children who cannot function productively in their regular classes for a continuous school day. They attend the resource room for one, two or three periods a day, but remain in regular education for at least 50% of the school day. These students are mildly to moderately handicapped students who may "manifest difficulties in academic areas including oral expression, listening compehension, written expression, spelling, basic reading skills, reading comprehension, mathematics calculation, mathematics reasoning and/or specific content areas." They "may need to develop behavioral skills necessary to maintain" themselves in classroom activities. Finally, they "may evidence sensory impairments which do not preclude participation in regular classroom activities." The resource room program is "generic," in that it serves students meeting the above criteria who may also be diagnosed as having a wide variety of handicaps (language disorders, learning disabilities, etc.). Typical class size in the resource room is five students. Resource room teachers usually serve four groups of five students each day.

In practice, according to District 27 special education

administrators, lines of demarcation between children in CEH, NIEH, and HC3D classrooms are blurred. Furthermore, resource room children are often diagnosed and may behave in very similar ways to CEH, NIEH, and HC3D children, although they appear to function more successfully in the regular education mainstream. The validity of comparisons between programs (in terms of teacher activity, student activity, student time on task, curriculum, etc.) depends upon the general comparability of students in these programs. Any differences in program characteristics found by this study could be due to some differences between the student populations served.

Specific teachers within schools were selected at random for observation until 15 teachers in each program type (HC3D, CEH/NIEH, and resource room) were obtainec. Teachers were selected only if they had taught within the same program and school during the previous school year. In order to restrict the age group of students examined, only classrooms containing students 8 tc 11 years old were selected. Once the resource room classrooms were chosen, one or more regular education classrooms serving those resource room students were selected for study. (More regular education classrooms than resource rooms were observed because resource room children were usually placed in several different regular education classrooms.)

B. Data Collection Procedures

After discussion with District 27 personnel, a data collection form and procedures were developed to gather information about the four variables of primary interest to the District: teacher time utilization (activity), paraprofessional time utilization (activity), student time utilization (activity), and student time on task. Several categories of observation were generated for each of the above variables. These categories were modified via pilot testing during the District 27 special education summer school, and are listed and defined briefly in Table 1. The actual data sheet used and detailed operational definitions of each category are provided in Appendix A and Appendix B.

Time sampling was the data collection method used; a 10-second period of observation was followed by 20 seconds of recording onto a data collection form. During each 30-second observation-recording cycle, the following information was recorded in the appropriate row on the data sheet: the teacher's activity; the paraprofessional's activity (if a paraprofessional were present); the activity or activities in which the students were supposed to be engaged; and the on-task behavior of a sample of the students in the classroom. After these recordings were finished, another 10 second observation was made followed by 20 seconds of recording in the next column on the data sheet. This procedure was continued for the remainder of the observation period.

The sample of students observed was obtained by selecting

Table 1
Categories of Observation

| Category | Brief Description |
|---|---|
| Teacher Activity | activity in which the teacher was engaged |
| Whole group instruction | teacher provides information, explanation, review, lecture, feedback, questions, examples to entire class |
| Small group instruction | same as for whole group, except to a portion of the class while the rest of the class is engaged in some other activity |
| One-to-one instruction | same as for whole group, except teacher works directly with one child; rest of children are not intended to hear, attend to, or benefit from the instruction |
| Monitoring student work | teacher watches students work or listens to student responses with only minimal teacher-student interaction |
| Assignments/directions | teacher gives assignments or directions to students which are necessary for students to begin work, engage in work, or complete work; assignments can be given orally or in writing |
| Administer test | teacher administers a test, item by item, to class or individual |
| Answers/Grades | teacher gives group or individuals information about correctness of their responses (e.g., gives several answers in a series) or about grades |
| Discipline/behavior | teacher corrects student misbehavior, enforces rules, lectures about appropriate conduct, administers a behavior management program (such as tokens) |
| Deskwork | teacher does class-related paperwork at desk or table (e.g., grading papers, making lesson plans) |
| Nonacademic routines | teacher engages in or directs students through routines such as attendance, pledge, permission slips, bathroom procedure, lunch count, drinks, etc. |
| Interact socially with S's | teacher interacts with students about non-school related topics (e.g., sports) |

Table 1 (cont.)

| Category | Brief Description |
|---|---|
| Interact with non-students | teacher interacts with someone who is not a student in class (e.g., talk to another teacher, talk to someone on class telephone) |
| Absent from room | teacher is not in classroom when students are in the classroom |
| Room maintenance | teacher cleans or straightens room (e.g., picks up paper, moves desks) |
| Materials | teacher makes or gathers materials for lessons |
| Personal activity | teacher engages in activity clearly unrelated to the classroom |
| Student Activity | the activity in which the students are supposed to be engaged (not what they are actually doing) |
| Attend to "watch and listen" | student expected to attend to academic presentation by peer or teacher, listen to assignments or directions, watch work being done on board, etc. |
| Participate in unison | student expected to provide a response in unison with rest of class |
| Individual response | student expected to provide a task response under direct teacher supervision (either in group or one-to-one with teacher) |
| Individual seatwork | student expected to engage in academic work on his/her own without direct supervision, at desk, learning center, etc. |
| Take test | student takes test under test conditions |
| Work in student led group | student expected to do assigned work in a group with one or more peers; student-student interaction is required |
| Correct completed work | student corrects own or other's work as answers are provided or from an answer key; proofreads work |
| Classroom routines | student expected to complete nonacademic routine, such as bathroom, sharpen pencils, get water, line up, form groups, clean room |

Table 1 (cont.)

| Activity | Brief Description |
|---|---|
| Free choice | students select own activity and engage in it in group or individually |
| Wait | student has finished an activity or assignment and must wait for teacher correction, explanation, assignment |
| Materials | student is expected to obtain materials for work from desk or room, or file, clean, store, shelve materials |
| Expectation unclear | it cannot be determined what students are supposed to be doing |

four students at random from the classroom and recording each student's behavior separately ("+" for on-task and "-" for off-task). Within regular education, the sampling process was modified. Two resource room children were selected at random for observation and then two same-sex nonhandicapped children engaging in the same activities were also selected at random, for a total of four students.

During the time sampling, observers also noted the subject, activity, and context at the top of the data recording form. After each observation was completed, the observers recorded brief descriptive notes about the classroom, using the following categories: lesson content; teaching strategy and methodology; congruence of methodology and lesson content; lesson sequence and flow; classroom atmosphere; teacher attitude and involvement; pupil attitude and involvement; and teacher sense of control. (See Appendix C.)

Also after each observation, observers rated the classroom on 15 dimensions of instruction, using a three point rating scale ("1": seldom, rarely, not seen; "2": sometimes, some evidence; "3": frequently, most of the time, much evidence). These dimensions were adapted from a District 27 checklist, "Essential Features of Quality Instruction." Several easily observable checklist items were defined operationally and used on the rating scale. The original District 27 checklist appears in Appendix D while the rating scale appears in Appendix E.

After data collection was completed in a school, one overall

rating was compiled by each data collector on every classroom observed. See "Summary Evaluation," Appendix F. The items for this rating were generated from issues raised by the data collectors during ongoing discussions about the classrooms they had observed. Like the descriptive notes and individual ratings, these dimensions were felt to complement the quantitative data collected by this investigation. While this descriptive information was necessarily less objective than the quantitative measures, it assisted in the interpretation of the time sample data, suggested factors influencing the four variables observed, and allowed descriptions of "model" programs to be compiled.

At the completion of the study, all teachers observed were asked to fill out a two-page questionnaire (Appendix G) about program structure, curriculum, and student on-task behavior. It was felt that teacher opinions would assist in interpretation of study results and in forming recommendations.

C. Training of Data Collectors

Six observers, graduate students or professors at St. John's University, Jamaica, New York, participated in the study. The data collectors were trained to use the data collection form and procedures in four sessions of approximately two hours each. During training, data collectors observed a variety of classroom situations on videotapes and recorded data as if in an actual classroom. Questions and disagreements regarding coding were discussed during the viewing of these videotapes. Data collectors were trained to at least 80% interobserver agreement prior

to the start of the study.

Throughout the study, data collectors met once every two weeks to discuss problems in data collection and to share descriptive observations of the classrooms.

D. Schedule of Data Collection

Observations were made from late October 1982 to late April 1983. Each data collector was assigned to collect data in a particular school or schools, rather than assigned to rotate among all schools in the district. This procedure was necessary to alleviate anxieties of the school administrators and teachers and permit the data collectors to become familiar with the school and classroom schedules.

Each classroom observation began near the start of an instructional "period" and ended near the close of the "period," so the length of observations varied according to classroom and school schedules. Most observations were about 45 minutes in length. The data therefore do not provide a complete picture of the entire school day from start to finish, but rather focus solely on classroom instructional time.

Data collectors spread observations across days of the week, times of the day, and different subject areas in order to obtain a representative sample of teacher and student activity and on-task behavior. Although it was originally hoped to be able to make unannounced visits to the classrooms in order to maintain the complete representativeness of the activities and events

observed, in practice the data collectors usually had to specify in advance the days and times when the classrooms would be visited. Data collectors were sometimes asked not to visit the school or particular classrooms on particular days, and these wishes were respected. In addition, no observations were made of the following: substitute teachers; standardized testing; special events or assemblies; "specials" such as art, music, gym; the days before or after long vacation periods; and the first or last 15 minutes of the school day. The data collected for this study therefore were as typical as could be obtained under the circumstances; some observations, however, probably represent optimal rather than typical instruction. This fact must be kept in mind when interpreting the results of the study.

E. Amount and Distribution of Data Collected

A total of 217 observations were made in four different programs serving handicapped students: CEH/NIEH classrooms, HC30 classrooms, resource rooms, and regular education classrooms. Seventy-one teachers were observed: 15 CEH/NIEH teachers; 15 HC30 teachers; 16 resource room teachers; and 25 regular education teachers. Of the 71 teachers, 28 were observed exactly three times, while 19 teachers were observed 4 or more times and 24 teachers were observed two or fewer times. The total number of observations made in each program were approximately the same: 55 in CEH/NIEH classes; 52 in HC30 classes; 48 in resource rooms; and 62 in regular education. Observations were spread across the day: 32% of the observations took place during early morning

(9:00 to 10:00); 40% took place during mic morning (10:00 to 11:00); 21% took place during late morning (11:00 to 12:00); and 7% took place during the afternoon.Observations were also spread across the days of the week: 18% of the observations occurred on Monday; 4% on Tuesday; 41% on Wednesday; 22% on Thursday; and 15% on Friday.

A variety of subjects were observed: 16% of the observations were of reading; 28% of language arts; 2% of spelling; 1% of penmanship; 18% of math; 6% of social studies; 2% of science; 1% of composition; and 3% of art, freechoice, or affective education. Thirty percent of the observations were of lessons in which two different subjects were taught in a row, or were of individualized lessons in which the students were working on different subject areas at the same time. Most classrooms were observed in at least two different subjects.

The classrooms observed had different numbers of students: 19% of classes observed had 1-4 students; 17% had 5-6 students; 17% had 7-8 students; 16% had 9-10 students; 8% had 11 to 18 students; 6% had 19 to 24 students; 10% had 25 to 30 students; and 7% had more than 30 students. Deviations from the expected class size were due to student absences and the combining of classes as a result of teacher absences.

The response rate to the teacher questionnaire was low: 4 of 30 (13%) of CEH, NIEH, and HC30 teachers responded; 4 of 16 (25%) of resource room teachers responded; and 5 of 25 (20%) of regular education teachers responded.

F. Summarization and Analysis of Data

Data from each observation were summarized using the Data Summary Form, Appendix H. Total frequencies in each category of teacher and student activity were computed, and then converted into a percentage by dividing the frequencies by the total number of observation intervals. Low frequency observation categories were combined. The percentage of student on-task behavior during each of the teacher and student activity categories was computed by dividing the number of students on task during the activity by the total number of students participating in the activity. Total on-task behavior was computed for each classroom observed by dividing the number of times all students were observed to be on-task by the total number of observation intervals for all students.

Once these data summaries were obtained, the data were analyzed. To determine differences between programs in quantitative variables, a one way analysis of variance was performed separately for each category of observation followed by Duncan post hoc comparison to determine which pairs of differences were significant. A median test was used to determine the percentage of ratings in each program which were above the median rating. A series of Mann-Whitney U tests was then performed to determine which program differences were significant. "Model" classrooms within each program type were chosen as follows: a classroom was considered a "model" classroom if scores on five key variables (total attending, percentage of teacher time devoted to instruc-

tion, percentage of student time devoted to instruction, total ratings, and percentage of students on task during all academic activities) were all above the mean. The descriptive notes for these model teachers were then analyzed to discover common characteristics of these programs. Problems affecting each program were also obtained by summarizing the descriptive data for those classrooms scoring in the lower third on any of the key variables.

# III. Results

## A. Differences Between Special Education Programs

One of the purposes of this study was to determine what differences, if any, existed between programs in District 27 serving non-retarded, mildly to moderately handicapped students. (Data on regular education classes are presented in Section C.)

The study results revealed that the programs displayed divergent patterns in several categories of all three quantitative variables (teacher activity, student activity, and student attending to task), in ratings of instruction, and in descriptions. The data on these variables are presented and discussed in separate sections below.

### 1. Teacher Activities

The data on teacher activities in the special education programs (CEH/NIEH, HC30, resource rooms) are presented in Table 2.

Whole group instruction was used infrequently in all special education classes (30% of the time or less). Resource room teachers spent even less time than the CEH/NIEH and HC30 teachers in this activity ($p < .01$). In fact, in 11 of the 16 resource rooms, no whole group instruction at all was observed. In addition, most of the teachers rarely employed small group instruction. Less than 9% of teacher time was spent in this activity. CEH-NIEH classes (which contained a paraprofessional) employed most small group instruction, but this difference was not statistically significant.

Table 2
Comparison of Percentage of Time Teachers
Spent in Various Activities in
Three Special Education Programs

| Teacher Activity | Percentage of Teacher Time Spent on Activity: CEH/NIEH Classes | HC30 Classes | Resource Rooms | Program Differences[a] |
|---|---|---|---|---|
| Whole group instruction | 22.4% | 28.8% | 10.4% | RR < CEH,HC30 * |
| Small group instruction | 8.0% | 6.3% | 7.3% | -- |
| One-to-one instruction | 13.3% | 11.8% | 41.4% | RR > CEH,HC30 * |
| Assignments/directions | 12.9% | 11.7% | 11.7% | -- |
| Monitoring student work | 13.0% | 16.1% | 9.3% | RR < HC30 * |
| Giving answers/grades | 3.7% | 7.8% | 7.1% | -- |
| Giving test | .7% | .2% | .2% | -- |
| Disciplining | 6.3% | 7.4% | 1.4% | RR < CEH,HC30 ** |
| Deskwork | 3.2% | 1.3% | 2.1% | -- |
| Materials, room maintenance | 5.4% | 2.3% | 4.1% | -- |
| Routines, social interaction | 7.1% | 5.4% | 3.7% | -- |
| Absent, interact with nonstudent | 5.1% | 2.3% | 1.2% | CEH > RR, HC30 ** |
| Overall academic time use[b] | 73.8% | 82.6% | 87.5% | RR,HC30 > CEH * |

[a] Programs were compared using a one-way analysis of variance, followed by post-hoc Duncan multiple range test.

[b] Obtained by combining first seven teacher activities.

* $p < .01$

** $p < .05$

Resource room teachers spent significantly more time in one-to-one instruction than teachers in the other programs (41% of the time vs. 12-13% of the time). Even though pupil-teacher ratios in resource rooms and CEH/NIEH classes were the same (due to the presence of a paraprofessional), CEH/NIEH teachers spent only 13% of their time in one-to-one instruction. At the same time, both CEH/NIEH and HC30 teachers spent more time than resource room teachers monitoring (watching) student work.

Giving of assignments and directions accounted for approximately 12% to 13% of teacher time in all programs (about 8 minutes of every hour), which appeared to be a high proportion of time. Only a very small amount of teacher time was spent in testing or assessment of students in any of the programs (less than 3%). Since special education programs are supposed to be characterized by ongoing and detailed assessments of student skills and behaviors, this finding was surprising. Between 4% and 8% of teacher time was spent giving answers or grades to students. There were no significant differences between the programs in the amount of teacher time spent testing or giving assignments/directions.

CEH/NIEH and HC30 teachers spent significantly more time in discipline (6% to 7% of total time) than did teachers in resource rooms. This finding might have been due to the characteristics of students in these programs. The amount of time spent on discipline was influenced by the high proportion of time (11% of the time or greater) spent on discipline in six HC30 and CEH/NIEH

classrooms, where the students were truly "out of control." In most classrooms throughout the district, the students were not overtly disruptive (although they were not necessarily attentive). The amount of time teachers spent on discipline did not correlate with the rated degree of order in any of the classrooms or programs.

CEH/NIEH teachers spent more time in deskwork, room maintenance and materials preparation, routines, interacting with nonstudents, absent from the room, or in personal activity than both resource room and HC30 teachers. This differences was significant only for "interaction with non-students, etc." It is possible that the presence of a paraprofessional in the CEH/NIEH classrooms influenced these findings.

When all "academic" teacher activity categories (large group instruction, small group instruction, one-to-one instruction, assignments/directions, monitoring, answers/grades, and testing) were combined and the programs were compared, it was revealed that resource room teachers spent the most time (87.5%) while the CEH/NIEH teachers spent the least time (74%) on academic activities. Both H30 and resource room teacher academic time was significantly greater than that of the CEH/NIEH teachers.

2. Student On-Task Behavior During Teacher Activities

There were some differences between the programs in student time on task during various teacher activities, as can be seen in Table 3. For example, although resource room teachers seldom used whole group instruction, student attending during whole

Table 3
Comparison of Student On-Task Behavior
During Various Teacher Activities in Three Special Education Programs

| Teacher Activity | Percentage of Students On-Task: CEH/NIEH Classes | HC30 Classes | Resource Rooms | Program Differences[a] |
|---|---|---|---|---|
| Whole group instruction | 78.9% | 78.3% | 93.1% | RR > CEH, HC30* |
| Small group instruction | 85.5% | 79.6% | 85.0% | -- |
| One-to-one instruction | 82.6% | 76 5% | 85.2% | RR > HC30** |
| Assignments/directions | 80.0% | 79.6% | 88.1% | RR > CEH,HC30** |
| Monitoring student work | 82.4% | 75.1% | 88.1% | RR > HC30** |
| Answers/grades | 80.9% | 75.9% | 85.5% | -- |
| Giving test | 100.0% | 95.0% | 100.0% | -- |
| Discipline | 72.2% | 70.1% | 64.4% | -- |
| Deskwork | 77.1% | 88.0% | 77.3% | -- |
| Materials, room maintenance | 75.6¢ | 84.5% | 83.1% | -- |
| Routines, social interaction | 76.2% | 83.9% | 88.0% | -- |
| Absent, interact with non-s's | 84.7% | 78.7% | 80.1% | -- |
| Overall academic time use[b] | 80.1% | 78.0% | 87.3% | RR > CEH,HC30** |

[a] Programs were compared using a one-way analysis of variance, followed by post-hoc Duncan multiple range test.

[b] Obtained by combining first seven teacher activities.

* $p < .01$

** $p < .05$

group instruction was significantly higher in resource rooms (93% attending) than it was in the other programs ($p<.01$).

There were no significant differences between the programs in student on-task behavior when the teacher led small groups. However, when the teachers worked with a student in one-to-one instruction, the other students in the room attended significantly better in resource rooms than in HC30 classes ($p < .05$). This finding may have been accounted for by the 1:5 teacher-pupil ratio in the resource rooms. In these classes, students not receiving direct teacher attention may possibly have perceived that their teachers were nonetheless aware of their behavior. They may also have anticipated that they were likely to receive similar teacher attention in the near future. Students in resource rooms attended to assignments/directions significantly more frequently than students in CEH/NIEH and HC30 classes, and were on-task more often when teachers monitored their work.

There were no significant differences between the programs in student on-task behavior during teacher testing, discipline, interaction with non-students, routines, deskwork, or room maintenance/materials.

When the percentage of students on task during all teacher academic activities was examined, students in resource rooms were on-task significantly more often than students in the self-contained programs ($p<.01$).

3. Student Activities

The activities to which students in the programs were typi-

cally assigned, presented in Table 4, were also different across the programs. Children in resource rooms spent only 17% of their time in "watch and listen" activities, significantly less than the proportion of time in CEH/NIEH and HC30 classes. Conversely, children in resource rooms spent more time on individual and unison responding than did children in the other classes. Since student attending was found to be worst in "watch and listen" activities and best in individual and unison responding activities (see Section 4 below), the proportion of time spent on these two activities affected overall student time on task.

Children in resource rooms spent more than half of their time on individual seatwork, significantly more than in the other programs. In fact, in four resource rooms, children spent 70% or more of their time on individual seatwork.

On the whole, very little student time was spent taking tests or working in student-led groups (2% of the time or less for each).

Children in CEH classrooms spent more time engaged in classroom routines than in the other programs. In addition, in the self-contained special education programs (CEH/NIEH and HC30), children spent significantly more time in waiting compared to the resource room children. Children in resource rooms, however, spent significantly more time obtaining materials (usually individual work folders or skill-building materials) than children in the other programs. This finding was not surprising, given with the high amount of time children in resource rooms spent on indi-

Table 4
Comparison of Percentage of Time Students
Spent in Various Activities in
Three Special Education Programs

| Student Activity | Percentage of Student Time in: CEH/NIEH Classes | HC30 Classes | Resource Rooms | Program Differences[a] |
|---|---|---|---|---|
| "Watch and listen" | 35.8% | 49.4% | 17.2% | RR < CEH, HC30* |
| Individual or unison responding | 11.9% | 9.6% | 13.1% | -- |
| Individual seatwork | 33.6% | 34.9% | 54.5% | RR > CEH, HC30* |
| Take test | .7% | .2% | 1.8% | -- |
| Work in student-led group | .1% | 1.9% | 1.9% | -- |
| Routines | 6.1% | 2.9% | 4.4% | -- |
| Wait | 10.9% | 9.5% | 3.7% | RR < HC30, CEH** |
| Materials | 1.0% | .5% | 2.3% | RR > CEH, HC30** |
| Overall academic time use[b] | 82.0% | 87.0% | 89.6% | RR > CEH* |

[a] Programs were compared using a one-way analysis of variance, followed by post-hoc Duncan multiple range test.

[b] Obtained by combining first five student activities.

* $p < .01$

** $p < .05$

vidual seatwork.

When all "academic" student time variables ("watch and listen," individual or unison responding, individual work, taking a test, working in a group) were combined and compared across programs, CEH/NIEH children spent significantly less time in academic activities than children in the other two programs (82% of the time vs. 87% or more of the time). The lower expectations for these children may be rated to this finding (see Section 5 below).

4. Student On-Task Behavior During Student Activities

The percent of time which students spent on-task during the various student activities was also compared across the programs. These data are presented in Table 5. Children in resource rooms displayed significantly higher on-task behavior in "watch and listen" activities, individual responding, and individual seatwork than did children in self-contained special education programs. Similarly, in all five academic activities combined, resource room children were on task significantly more often than children in the other programs. There were no differences between the programs in student on-task behavior during testing, work in groups, or routines/free choice. Students in resource rooms were significantly more on-task during waiting (e.g., not disruptive) than children in the CEH/NIEH classes. Both resource room and HC30 children were more on-task when obtaining materials than children in CEH/NIEH classes.

In conclusion, resource room classes appeared more effective

Table 5
Comparison of Student on-Task Behavior
During Various Student Activities
in Three Special Education Programs

| Student Activity | Percentage of Students On-Task: CEH/NIEH Classes | HC30 Classes | Resource Rooms | Program Differences[a] |
|---|---|---|---|---|
| "Watch and Listen" | 79.1% | 80.3% | 94.0% | RR > CEH,HC30* |
| Individual or unison responding | 95.2% | 92.5% | 99.2% | RR > CEH, HC30* |
| Individual seatwork | 74.3% | 74.5% | 83.5% | RR > CEH, HC30* |
| Take test | 100.0% | 90.0% | 87.0% | -- |
| Work in student-led group | 75.0% | 88.4% | 90.8% | -- |
| Routines | 85.7% | 90.1% | 91.8% | -- |
| Wait | 84.7% | 88.0% | 96.2% | RR > CEH** |
| Materials | 85.8% | 95.9% | 94.6% | -- |
| Overall academic time use[b] | 80.1% | 78.0% | 87.3% | RR > CEH,HC30** |
| Total attending, all activities | 79.1% | 78.1% | 88.3% | RR > CEH,HC30** |

[a] Programs were compared using a one-way analysis of variance, followed by post-hoc Duncan multiple range test.

[b] Obtained by combining first five student activities.

* $p < .01$

** $p < .05$

than the self-contained classrooms in obtaining student attention to task during most student activities. Total attending to task during all activities reflected this trend: on-task behavior of resource room children was about 10% higher than that in the other programs, and this difference was significant.

5. Ratings of Several Instructional Dimensions

Each classroom observed was rated on 15 instructional dimensions using a three-point rating scale: "3": frequently, much evidence of the item; "2": sometimes, some evidence of the item; and "1": rarely, little or no evidence of the item. These ratings were averaged across the district. The percentage of all classrooms displaying each curriculum dimension "frequently," "sometimes," and "rarely" is presented in Table 6, together with the average curriculum rating for each dimension. The highest ratings were for the following dimensions: clarity of objectives, classroom order, and amount of individual seatwork. The average rating for these dimensions was between "sometimes" and "frequently."

The next highest ratings were for high expectations (1.9), frequency of teacher led lessons (1.9), precise and frequent feedback (2.0), use of practice activities for mastery (1.8), individualization (1.7), and one-to-one teacher student contact (1.7). On average, most district classrooms "sometimes" demonstrated evidence of these dimensions during every observation session.

However, the following dimensions occurred rarely (with an

Table 6
Ratings of All Classrooms on Selected Dimensions of Instruction

| Instructional Dimension | Percentage of All Classrooms Displaying Dimension: Rarely (1) | Sometimes (2) | Frequently[a] (3) | Average Rating |
|---|---|---|---|---|
| High expectations | 37% | 33% | 30% | 1.9 |
| Clear objectives | 14% | 38% | 48% | 2.3 |
| Orderly classroom | 17% | 30% | 53% | 2.4 |
| Teacher-led lessons | 39% | 33% | 28% | 1.9 |
| Individual seatwork | 14% | 41% | 45% | 2.3 |
| Individualization of work | 57% | 21% | 23% | 1.7 |
| One-to-one instruction | 50% | 30% | 20% | 1.7 |
| Within-class groupings | 79% | 14% | 7% | 1.3 |
| Practice Activities | 41% | 42% | 17% | 1.8 |
| Amount of feedback | 27% | 46% | 27% | 2.0 |
| Specialized techniques | 83% | 14% | 3% | 1.2 |
| Contingent reinforcement | 72% | 25% | 3% | 1.3 |
| Data collection | 90% | 7% | 3% | 1.2 |
| Teaching of socialization | 77% | 16% | 7% | 1.3 |
| Teaching for generalization | 78% | 14% | 8% | 1.3 |

[a] A three-point rating scale was used: "3": frequently; "2": sometimes; "1": rarely or never observed.

average rating of 1.3 or less): within-class groupings, special techniques, contingent reinforcement, teaching of socialization skills, teaching for generalization, and collection of data.

The individual classroom ratings were then grouped by programs and program averages were computed for each rating variable. A median test was used to compare the number of ratings in each program which were greater than (vs. equal to or less than) the median (most frequent) rating. A Mann-Whitney U test was then used to determine whether or not there were significant differences in ratings between the programs by comparing the relative rankings of ratings between pairs of programs.

For seven dimensions rated, "2" (sometimes) was the median rating. The number of classrooms having ratings above this median (i.e., "frequent") is presented in Table 7. According the Mann-Whitney U test, expectations were significantly higher in resource rooms than in the other programs ($p < .01$); 46% of the resource rooms were rated as frequently displaying high expectations. Expectations were rated lowest in CEH/NIEH classrooms, which might be associated with the lower amount of time spent on academic work in those classes.

The resource rooms were rated as "frequently" displaying clear objectives 54% of the time. Objectives were significantly clearer in resource rooms than in CEH/NIEH ($p < .05$) and HC30 ($p < .10$) classes. Clarity of objectives was not the same as having objectives written on the board. To be rated as having clear objectives, the objectives had to be apparent and under-

Table 7
Comparison of Special Education Programs on Ratings of 15 Dimensions of Instruction

| Dimensions of Instruction | Percentage of Classrooms Frequently Displaying Dimension (Median = 2.0)[a] CEH/NIEH Classes | HC30 Classes | Resource Rooms | Difference Between Resource Rooms and:[b] CEH/NIEH Classes | HC30 Classes |
|---|---|---|---|---|---|
| High expectations | 22% | 31% | 46% | $p < .01$ | $p < .01$ |
| Clear objectuves | 38% | 40% | 54% | $p < .05$ | $p < .10$ |
| Orderly classes | (median rating = 3.0) | | | $p < .05$ | $p < .10$ |
| Teacher-led lessons | 20% | 25% | 20% | -- | -- |
| Individual seatwork | 42% | 46% | 76% | $p < .01$ | $p < .01$ |
| One-to-one instruction | 16% | 15% | 54% | $p < .01$ | $p < .01$ |
| Practice activities | 14% | 11% | 30% | $p < .05$ | $p < .05$ |
| Amount of feedback | 18% | 23% | 46% | $p < .01$ | $p < .01$ |

| Dimensions of Instruction | Percentage of Classrooms Sometimes Displaying Dimension (Median = 1.0) CEH/NIEH Classes | HC30 Classes | Resource Rooms | Difference Between Resource Rooms and: CEH/NIEH Classes | HC30 Classes |
|---|---|---|---|---|---|
| Individualized Assignments | 44% | 38% | 90% | $p < .01$ | $p < .01$ |
| Within-class groupings | 30% | 21% | 23% | -- | -- |
| Special techniques | 12% | 8% | 46% | $p < .01$ | $p < .01$ |
| Contingent reinforcement | 30% | 25% | 49% | $p < .05$ | $p < .01$ |
| Data collection | 0% | 11% | 32% | $p < .01$ | $p < .01$ |
| Teaching of socialization | 28% | 19% | 20% | -- | -- |
| Teaching for generalization | 16% | 25% | 20% | -- | -- |

[a] A three-point rating scale was used: "3": frequently; "2": sometimes; "1": rarely or never observed.

[b] A Mann-Whitney U test for independent samples was used to determine differences between the resource rooms and the other two programs. With the exception of "data collection" there were no differences between CEH/NIEH and HC30 programs.

standable to the students. The resource rooms classes were also significantly more orderly than the CEH/NIEH and HC30 classes ($p<.05$ and $p<.10$, respectively). Ratings for individual seatwork and teacher one-to-one instruction mirrored the quantitative data: these activities were rated significantly higher in resource rooms than in the self-contained special education programs ($p<.01$). Practice activities and precise feedback occurred significantly more often in resource room classrooms than in the other programs; they were rated as "frequent" 30% and 46% of the time.

For seven dimensions rated, "1" (rarely) was the median rating, and the number of classrooms in each program having ratings above this median (i.e., "sometimes" or "frequent") were compared. Individualization of assignments occurred at least "sometimes" in 90% of the resource rooms rated, which was significantly higher than in the HC30 or CEH/NIEH classes.

Although within-class groupings were rated as slightly more frequent in CEH/NIEH classes, this difference was not statistically significant. This result is consistent with the quantitative fincings.

Special techniques, contingent reinforcement of appropriate behavior, and data collection occurred significantly more often in resource rooms than in the other programs ($p<.01$). Even so, these dimensions "sometimes" occurred in at most 49% of the resource rooms rated.

There were no significant differences between the programs

in the ratings given to "teaching of socialization skills" or "teaching for generalization."

Several cautions must be made in interpreting these rating results. The 15 dimensions rated are not the only possible dimensions which could have been rated. They were selected because they were included on the district checklist and were easier to observe and rate than other dimensions.

In addition, the usefulness of these ratings is limited by the detail and reliability of the rating scale itself. A three-choice rating scale may be more reliable but it has less detail than 5-point or 7-point rating scales.

Finally, generalizations about the district as a whole are not applicable to all classrooms observed. Several classrooms did demonstrate frequent evidence of dimensions which were infrequently displayed in the district as a whole.

B. Descriptions of Special Education Programs

1. Resource Rooms

a. Average Resource Rooms

This section describes the average resource room classroom, using both the quantitative and descriptive data.

Typical resource rooms seldom contained teacher-led instructional activities. Rather, children engaged in individual seatwork at separate desks or tables with the teacher providing tutorial help on a rotating basis. Since teachers in resource rooms spent an average of 41.4% of their time in one-to-one

instruction (about 25 minutes of every hour), each resource room child received an average of 5 minutes of one-to-one teacher attention during each period (assuming that teacher time were distributed equally among all children). Most teacher and student time was centered on academic activities, with little time in waitng or routines (except for obtaining materials). Students generally did not interact with peers, even about tasks.

Student attending in resource rooms was higher than in all other programs, perhaps reflecting the amount of teacher attention focussed on academics, the low pupil-teacher ratio, the brief amount of time spent in the resource room (usually one hour), and/or the classroom seating arrangement.

The curriculum materials were usually commercially published worksheets and/or skills building kits. In the typical resource room, there was little evidence of teacher-made materials or of commercial materials designed specifically for learning delayed or disabled students. Teaching techniques in these resource rooms were also not markedly different from those found in regular education classes.

The curriculum observed appeared to be remedial--that is, designed to improve particular student skills. Most work was individualized to the extent that the students all worked on different skills at the same time. This did not necessarily mean that the curriculum was individually selected with each student's strengths and weaknesses in mind.

Because of the way in which these resource rooms were

structured, students in them needed to be able to work well independently. Some resource room students seemed able to do so, while others worked well only when teacher attention was focussed directly on them. Furthermore, students within the average resource room were generally not taught to listen to and obtain information from group discussions or presentations.

b. Model Resource Rooms

Seven resource room teachers were selected as "model" teachers because the following five variables were all above the mean for the resource room program as a whole: overall student attending, percentage of student time spent on academics, percentage of teacher time spent on academics, percentage of student time on task during academic activities, and curriculum ratings. These seven resource rooms are described in this section.

Model resource rooms, in contrast to the others observed, provided whole group instruction as well as student individual work related to this instruction. During individual work, model teachers rotated frequently from student to student, explaining, checking work, giving directions for new work, etc. They were never involved in deskwork during student individual work. One model teacher had students work in groups independent of teacher supervision, which freed this teacher's time for work with other students. This was not attempted by the other teachers.

"Model" teachers usually covered several topics or concepts in one period. There was no "free choice" since the students were continually involved in work. Model classes also had effi-

cient routines for beginning the period, obtaining materials, and ending the period. Work folders, equipment, materials, and lessons were prepared in advance.

The curriculum selected appeared to have an explicit rationale. Either the students were weak in the skill area and/or the skill area was of importance in the regular education classroom. Materials and equipment designed especially for students with learning problems were employed in these model classes. They appeared chosen for the purpose of teaching a particular task or skill rather than used for their own sake. Instructional methods were also varied for different students in some (not all) of the model classrooms. For example, teachers altered length of assignments, types of responses required, vocabulary, and question types for particular students.

"Model" resource room teachers were well acquainted with multiple student skill levels and were therefore able to provide sincere reinforcement for student improvement. These teachers also identified and reinforced positive student work habits, such as not giving up, attempting to work independently, problem solving, checking work, or completing work. However, this reinforcement was not systematic enough to constitute a formal behavior management program.

Three model teachers emphasized the acquisition of learning processes as well as acquisition of information. For example, students were taught the process to arrive at a correct answer or complete a task--the type of information required by a particular

question, the use of context to decipher a new word, the steps to completion of a story problem. The teachers then expected the students to apply the processes learned to new situations or examples.

c. Problems Within Resource Rooms

This section describes some characteristics occurring in two or more resource rooms which appeared to detract from the overall effectiveness of those classrooms. This description is a composite one. No one resource room displayed all of these "problem" characteristics.

In contrast to model classrooms, some resource rooms appeared not to have established effective routines for beginning the period, having students obtain their work, or for ending the period. In these classes, students milled around the room waiting for teacher direction; could not locate worksheets, materials or equipment; or waited for several minutes while the teacher wrote and explained separate "aims" for each student. This inefficient use of time was also revealed in the transitions between classes. Although not part of the time sample data, descriptive notes indicate that it sometimes took fifteen minutes to "deliver" and "pick up" students for the resource rooms.

In these classrooms, teacher-student interactions were less frequent and effective than in model classrooms. Some teachers stayed physically distant from the students, interrupting their deskwork or routines only when asked for help by the students. Others were unprepared and spent much time setting up materials,

finding missing pieces to equipment, or locating student worksheets. Still others had not developed an efficient way to share their time among students. While the teacher spent time with one student, the other students ceased work because they had not been trained to work independent of teacher attention.

The choice and quality of the curriculum was also a problem in many of these classrooms. The emphasis appeared to be on student completion of worksheets rather than on the learning of new skills. Thus, although "skills building" kits and worksheets were much in evidence, these materials appeared to be rotated among all students regardless of their learning needs. Furthermore, although worksheets were corrected, there was little checking done to see if the children had actually learned the desired skill as a result of completing these worksheets or units. In some classrooms, it was clear that the students were not challenged. They were given a minimal amount of work to complete during the period; when it was finished they could engage in "free choice." Thus, although in some of these classrooms students were on-task a large percentage of the time, this fact by itself did not indicate that learning was taking place.

Finally, in two "problem" classrooms, the teacher had difficulty controlling student behavior. Students refused to work, bothered each other, sidetracked the teacher with irrelevant comments, etc. This problem appeared to be due to the lack of systematic rules for behavior and procedures for work, as well as an ambiguous and non-contingent reinforcement system which absorbed

a great deal of teacher time and student attention. This was not characteristic, however, of the resource rooms in general.

2. Self-Containec Special Education Classrooms

a. Average Self-Contained Classrooms

Due to the similarity of the self-contained special education classrooms observed (CEH, NIEH, and HC30 classes), these classes are described together in this section. It was not expected that the CEH/NIEH and HC30 classes would be similar; in terms of pupil-teacher ratio, the CEH/NIEH classes (containing a paraprofessional) were nearly identical to the resource rooms. The issue of paraprofessionals in the classroom is discussed separately in Section D.

In the self-contained classrooms, teachers spent about one-third of their time in teacher-led instructional activities (whole group or small group), about twice the amount of time spent in the resource rooms. In contrast, though, these teachers spent much less time in one-to-one instruction than the resource room teachers (12-13% vs. 41% of the time). Furthermore, on average, teachers in these classes spent 26% of the time on non-instructional activities (disciplining, deskwork, room maintenance, obtaining materials, routines, interacting with non-students). This proportion was higher than in both resource rooms and regular education and could not be accounted for by the characteristics of the students.

The most frequent student activity was attending to "watch

and listen" activities, followed by individual work. A few within-class student groups were used, generally for reading lessons rather than for math or other subject areas. A substantial porportion of student time (13%-17%) was spent in nonacademic tasks, such as waiting or routines.

On average, student time on task was lower than in the resource rooms, even in the CEH/NIEH classes which contained a paraprofessional. However, student time on task within self-contained classes varied, depending upon the particular teacher's management and teaching skills. Lack of attending, wandering, work refusal, statements of "I can't," etc. were evident in only some of the self-contained special education classes. Despite the diagnosed social-emotional problems of these students, there was little evidence of systematic individual behavior management programs and no data collection on student behavior was observed.

The curriculum focus on these classrooms appeared to be similar to the regular education academic curriculum. The daily schedule was divided into periods devoted to different subject matter areas. The students used texts and commercial materials designed for regular education students. In fact, in most cases, the curriculum appeared identical to that in regular education, with the exception that students worked on several grade levels. "Special" materials and/or teaching techniques were not typically used.

This general description obscures the high amount of varia-

tion in the teachers' use of time, student activities, student attending, and curriculum within the self-contained special education programs. A description of "model" classrooms and "problem" characteristics follows in the next section.

b. Model Self-Contained Classrooms.

Three CEH/NIEH and four HC30 classes were selected as "model" classes because the following five variables were all above the mean of their programs: overall student attending, percentage of student time in academic activities, percentage of teacher time in academic activities, percentage of student time on task in academic activities, and curriculum ratings. These classrooms are described in this section.

Teachers in "model" self-contained classrooms spent most of their time on instruction and interaction with the students and very little on routines and deskwork. These teachers had strategies for minimizing disruptions to instruction by visitors to the classroom. They were well prepared; all materials were ready for the students and little time was wasted in starting any instructional period. These "model" teachers were also highly involved whenever students did individual work, rotating from student to student providing assistance in much the same manner that resource room teachers did. These teachers used every minute of each instructional period. There were few "filler" activities and the instruction continued up to the last minute of the period.

Teaching procedures were very systematic in model

classrooms. During whole-group lessons, the teacher was well organized. All relevant concepts and vocabulary were explained. The teacher provided several examples and attempted to involve all students in responding. Off-topic responses were not accepted. Teacher questions were unambiguous and suited to the students' ability to respond. Directions for individual work were clear, and the students knew exactly what was expected of them.

The curriculum appeared selected to suit the ability of the students. Students worked at several grade levels and the "model" teachers appeared to be aware of where each student was within each subject area. The program was not necessarily completely "individualized" (different) for each student, and such a degree of individualization did not appear to be necessary. However, in a few of the model classrooms, the curriculum was not suitable for particular students who were several levels below the other students. Even the model teachers found it difficult to make provision for these students within their classrooms.

The "model" classrooms had clearly identifiable classroom rules which were consistently enforced by the teachers and consistently followed. The teachers in these classrooms praised both student effort and correct responses. However, even some model teachers spent more time focussing on inappropriate rather than appropriate student behavior. Some teachers also provided overly-lavish praise for small amounts of student effort.

In general, these "model" classrooms were well run classes

in which most teacher time was spent on instruction. Instructional techniques were effective and teachers had good control over the class, established by the presence of clear rules and maintained by reinforcement of students for following the rules. The curriculum was suitable for the students (with a few exceptions). The teachers were familiar with the curriculum and knew exactly what skills all students were working on in particular curriculum areas. In summary, these "model" classes were similar to effective regular education classes except for differences in class size, the number of different grade levels in the curriculum, reinforcement of students, teacher questions and explanations, and the type of students served.

c. Problems Within Self-Contained Classrooms

This section describes some characteristics occurring in several self-contained special education classes which appeared to detract from the overall effectiveness of these classrooms. This description is a composite one. No one self-contained special education classroom displayed all of these problems.

Teachers in these classes generally spent little time in whole-group, small group, or one-to-one instruction. Rather, they engaged in deskwork, monitoring, or grading individual papers. Teacher-led routines also took up a great deal of class time. Some teachers worked at their desks while students were working individually, providing help only when asked. Instruction often ended 10 minutes before the end of the period. In general, teacher time was not spent efficiently and much more

instruction could have taken place in the allotted time.

There was proportionately more time spent on discipline in these classes than in the other self-contained classes. These teachers used reprimands, threats, ridicule, cajoling, and arguing in attempts to influence student behavior. These strategies had only a temporary, if any, effect. These teachers also typically paid a great deal of attention to minor infractions and rarely or never praised the children for appropriate actions. Reinforcement, when used, was used non-contingently--that is, it was presented regardless of the appropriateness of the student behavior preceding the reinforcement. No systematic behavior management programs were observed. Furthermore, students were usually "out of control" in six self-contained classrooms, where there were few or inconsistent rules and teachers reacted to rather than anticipated student infractions.

Although classrooms with a high percentage of time spent on discipline were viewed by some school administrators as "well-disciplined," these classrooms were not always well managed. The teachers were not effective in maintaining high levels of student time on task, in altering student behavior patterns, or in motivating students. In other words, according to the observations in this study, the amount of time devoted to discipline was not an indicator of the effectiveness of the discipline.

Student attending in these classes was poor. Students were

not reinforced for attending to tasks; they appeared to have poor work completion skills and no programs to improve these skills were observed. Lack of teacher instructional involvement and monitoring contributed to this problem.

Major problems in the choice, presentation, and organization of the classroom curriculum were present in most of these classes. In general there appeared to be no rationale for the content or sequence of the curriculum selected. In many cases, it was too hard: the students did not have the conceptual skills, vocabulary, or experiences necessary for the curriculum, and these were not provided by the teacher. In other cases it was too easy, and could be done by rote without any learning taking place. In still other cases, far too much new information was presented (e.g., students were given 40 new spelling words to learn).

Skills kits were frequently used but were not used appropriately. It was not apparent that the students were deficient in the skills taught by the skills kits. Furthermore, the teachers did not know whether or not the students had already completed the particular tasks to which they were assigned. For example, some teachers asked students which kits, worksheets, or units they had finished. Under these circumstances, the curriculum appeared designed solely to keep the children busy at tasks, rather than to teach them any new skills.

Individual help and large group instruction were not effective. The students were given information ("use the word bank")

but were not told how to use it. Concepts were presented ("this is a factor") but were not explained or accompanied by examples. Children were told they were wrong but were not given any assistance to correct their errors. Group lessons were disorganized, containing no introduction, development, or summary. Whole group lessons tended to go on for too long and not all students were involved. The ineffectiveness of these group lessons was associatec with the fact that these teachers were unprepared; materials were not ready and the teachers were unfamiliar with the concepts to be presented. They referred to the teacher's manual frequently and could not answer student questions because these questions had not been anticipated or the teachers did not know the answer.

These classes certainly contained some difficult-to-teach students. There was no evidence, however, that these students were any more difficult to teach than the students in the "model" classrooms, typical classrooms, or even in some of the resource rooms. The characteristics of the students cannot therefore be used as an explanation for the problems observed within these classrooms, particularly the problems in the use of teacher time and in the selection of curriculum.

C. Resource Room Children in Regular Education

1. Differences Between Regular and Resource Classes

A comparison was made of the teacher activity, student activity, student attending, and curriculum ratings in regular

education classrooms and resource rooms, using a one-way analysis of variance for each variable. These results are presented in Table 8.

The structure of resource rooms and regular education classrooms was different in several ways. Resource rooms contained significantly less teacher time spent in whole group instruction than did the regular education classes (10% vs. 42% of the time). Conversely, resource room teachers spent significantly more time in one-to-one instruction than did the regular education teachers (41% vs. 4%). This amount translates into five minutes spent in one-to-one instruction per child per hour by the resource room teachers vs. 11 seconds per child per hour by the regular education teachers (assuming class sizes of five and 25, respectively). Instead, regular education teachers spent more time monitoring students when they were working independently.

Regular education teachers also spent more time than the resource room teachers in testing ($p<.05$) and deskwork ($p<.10$).

When all teacher instructional activities are combined, resource room teachers spent more time on direct instruction than the regular education teachers, but this difference was not significant.

With respect to student activities, students in resource rooms spent significantly less time in "watch and listen" activities than did children in regular education (18% vs. 52% of the time). They had significantly more opportunity to respond indivicually or in unison than children in the regular education

Table 8
Comparison of Regular Education and Resource Room Classes:
Teacher Activity, Student Activity, and Student Time on Task

| Teacher Activity | Percent of Teacher Time Spent on Activity: Resource Room | Regular Education | Level of Significance[a] |
|---|---|---|---|
| Whole group instruction | 10.4% | 41.5% | $p < .01$ |
| Small group instruction | 7.3% | 4.5% | -- |
| One-to-one instruction | 41.4% | 4.6% | $p < .01$ |
| Assignments/directions | 11.7% | 10.7% | -- |
| Monitoring | 9.3% | 13.4% | $p < .10$ |
| Answers/grades | 7.1% | 5.9% | -- |
| Testing students | .2% | 2.9% | $p < .05$ |
| Disciplining | 1.4% | 2.1% | -- |
| Deskwork | 2.1% | 4.5% | $p < .10$ |
| Room maintenance, materials | 4.1% | 2.9% | -- |
| Routines | 3.7% | 4.8% | -- |
| Interacting with non-students | 1.2% | 2.2% | -- |
| Overall academic time use[b] | 87.5% | 83.4% | -- |
| **Student Activity** | **Percent of Student Time Spent on Activity: Resource Room** | **Regular Education** | **Level of Significance** |
| Attending to "watch and listen" | 18.2% | 52.0% | $p < .01$ |
| Unison, individual responding | 13.1% | 3.6% | $p < .01$ |
| Individual seatwork | 54.5% | 28.7% | $p < .01$ |
| Taking test | 1.8% | 5.4% | $p < .10$ |
| Student-led groups | 1.9% | .3% | $p < .10$ |
| Routines | 4.4% | 2.0% | $p < .05$ |
| Waiting | 3.7% | 6.5% | $p < .05$ |
| Obtaining materials | 2.3% | 1.6% | -- |
| Overall academic time use[c] | 89.6% | 89.9% | -- |

Table 8 (cont.)

| Teacher Activity | Percent of Students On-Task During Activity: Resource Room | Regular Education | Level of Significance[a] |
|---|---|---|---|
| Whole group instruction | 93.1% | 71.4% | $p < .01$ |
| Small group instruction | 85.0% | 76.7% | -- |
| One-to-one instruction | 85.2% | 73.0% | $p < .05$ |
| Assignments/directions | 88.1% | 81.0% | $p < .05$ |
| Monitoring | 88.1% | 77.4% | $p < .01$ |
| Answers/grades | 85.5% | 73.2% | $p < .05$ |
| Testing students | 100.0% | 95.4% | $p < .05$ |
| Disciplining | 64.4% | 74.7% | -- |
| Deskwork | 77.3% | 74.0% | -- |
| Room maintenance, materials | 83.1% | 73.7% | $p < .10$ |
| Routines | 88.0% | 84.3% | -- |
| Interacting with non-students | 80.1% | 85.6% | -- |
| Overall academic time use[b] | 87.3% | 76.6% | $p < .01$ |
| **Student Activity** | | | |
| Attending to "watch and listen" | 94.0% | 71.2% | $p < .01$ |
| Unison, individual responding | 99.2% | 93.6% | $p < .01$ |
| Individual seatwork | 83.5% | 73.7% | $p < .01$ |
| Taking test | 87.0% | 91.0% | -- |
| Student-led groups | 90.8% | 98.7% | -- |
| Routines | 91.8% | 93.2% | -- |
| Waiting | 96.2% | 90.8% | -- |
| Obtaining Materials | 94.6% | 82.3% | $p < .01$ |
| Overall academic time use[c] | 88.3% | 77.0% | $p < .01$ |
| Total student time on task | 87.3% | 76.6% | $p < .01$ |

[a] A one way analysis of variance was used to determine these differences

[b] Obtained by combining first seven teacher activities.

[c] Obtained by combining first five student activities.

classrooms (13% vs. 4% of the time). In terms of rates of respoding, this comparison is 7.8 minutes of individual responding per hour vs. 2.4 minutes per hour. Students in resource rooms also spent a significantly greater proportion of time in individual seatwork (55% vs. 29%) than children in regular education, whereas children in regular education are tested more frequently.

Finally, although both groups of children spent equal amounts of time in academic activities (attending to "watch and listen" activities, responding, doing individual seatwork, taking tests, participating in student-led groups), the contexts in which this work was performed was highly different. While it may be an excellent settings for stucents to acquire skills, the resource room setting may not prepare a child to function in a regular education classroom, with its low amount of teacher-student contact and high amount of "watch and listen activities."

The attending of resource room children was significantly better than that of regular education children, when analyzed either during teacher or student activities. For example, resource room children were on-task significantly better during the following teacher activities: whole group instruction, one-to-one instruction, monitoring, obtaining materials, and all teacher academic activities combined.In addition student on-task behavior was better (but not significantly better) in the resource rooms than in regular education during the following

teacher activities: small group instruction, assignments/directions, answers/grades, testing, deskwork, and routines.

Similarly, the on-task behavior of resource room children was significantly better than that of regular education children during several student activities: "watch and listen" activities, individual seatwork, individual responding, obtaining materials, and all academic student activities combined. Regular education students tended to be more on task during tests, routines, and student-led groups.

Overall time on task between programs reflected the differences encountered for particular activities. Resource room children were significantly more on task during all activities combined: 87% vs. 77% ($p<.01$). These findings were not surprising. Student attending was lowest during "watch and listen" activities, and this was the most frequent activity in regular education. Resource room classes also had far fewer students. Even so, during some activities, student time on task was better in regular education.

The ratings of various instructional dimensions in the two programs were compared using the Mann-Whitney U test for independent samples. The ratings of both programs diverged in some dimensions (see Table 9). Expectations were significantly higher in the resource rooms than in the special education classrooms, indicating that the students were required to do more work, do work more accurately, or complete more difficult work than in the

Table 9
Comparison of Resource Rooms and Regular Education Classrooms on Ratings of 15 Dimensions of Instruction

| Dimension of Instruction | Percentage of Classrooms Frequently Displaying Dimension (Having Ratings Above Median 2.0)[a] Regular Education | Resource Rooms | Level of Significance[b] |
|---|---|---|---|
| High expectations | 46% | 25% | $p < .05$ |
| Clear Objectives | 54% | 62% | -- |
| Order Classroom | (median rating of 3.0) | | $p < .05$ |
| Teacher-led lessons | 20% | 43% | $p < .01$ |
| Individual seatwork | 76% | 25% | $p < .01$ |
| One-to-one instruction | 54% | 6% | $p < .01$ |
| Practice Activities | 30% | 17% | $p < .05$ |
| Amount of Feedback | 46% | 24% | $p < .01$ |

| Dimensions of Instruction | Percentage of Classrooms Sometimes Displaying Dimension (Having Ratings Above Median 1.0) Regular Education | ?esource Rooms | Level of Significance |
|---|---|---|---|
| Individualized assignments | 90% | 13% | $p < .01$ |
| Within-class groupings | 23% | 13% | -- |
| Special techniques | 46% | 5% | $p < .01$ |
| Contingent reinforcement | 49% | 13% | $p < .01$ |
| Data collection | 32% | 2% | $p < .01$ |
| Teaching of socialization | 20% | 25% | -- |
| Teaching for generalization | 20% | 28% | -- |

[a] A three-point rating scale was used: "3": Frequently; "2": sometimes; "1": rarely or never observed.

[b] A Mann-Whitney U test for independent samples was used to determine differences between programs.

regular education classrooms. This finding was consistent with the fact that the work in the rescurce room was more individualized for particular children. It is interesting that despite (or because of) these high expectations, children in resource rooms were on-task significantly more frequently than in regular education.

Children in resource rooms also received significantly more chances for practice and feedback, and received more contingent reinforcement for their work. Assignments were individualized (different for different students) more frequently, and special techniques were used more often. The resource rooms and regular education classrooms thus appeared very different in selected curriculum dimensions. The implications of these findings for the functioning of students in regular education are discussed in Section IV, Discussion.

2. Time on Task of Resource Room Children

This study examined the on-task behavior of "resource room" children when in their regular education classrooms. Most of these children spent one hour each day in the resource room and the rest of the time in regular education, where they were expected to complete the same tasks and learn the same skills as their nonhandicapped peers. The on-task and off-task behaviors of the handicapped and nonhandicapped children were totaled for each observation in regular education and then averaged across all observation periods. A t-test was used to determine whether the on-task behavior of the handicapped students was comparable

to that of the nonhandicapped students.

When in regular education, the resource room children were on task 75% of the time, whereas their nonhandicapped peers were on task 79% of the time. (See Table 10.) This difference was significant at the level of $p<.05$. Therefore, despite the high levels of on-task behavior which handicapped children displayed within the resource room, they did not "carry over" this behavior into the regular education classroom. It must be noted that, although off task an average of 25% of the time, the handicapped children were seldom overtly disruptive (at least no more disruptive than their nonhandicapped classmates).

The magnitude of the difference between groups was not large. Some hancicapped children displayed on task behavior equal to that of their nonhandicapped peers; however, other handicapped children displayed much lower on-task behavior. It must be remembered that even small differences in on-task behavior, over time, may cumulatively result in large amounts of time lost to instruction. For example, a 4% decrease in on-task behavior is equivalent to losing one hour of instructional time each week.

The time on task of the hancicapped children was slightly closer to that of nonhandicapped children in those classrooms with above average (that is, above 80%) rather than below average (below 80%) time on task. This difference was no significant. In other words, the time on task of the entire class did not by

Table 10
On-Task Behavior of Handicapped and
Nonhandicapped Children in Regular Education

| Variable | Nonhandicapped Children | Resource Room Children | Level of Significance[a] |
|---|---|---|---|
| On-task behavior in all regular education classes | 79% | 75% | $p < .05$ |
| On-task behavior in regular education classes with total attending above 80% | 90% | 87% | $p < .10$ |
| On-task behavior in regular education classes with total attending below 80% | 67% | 62% | $p < .10$ |

[a] A t-test (one tailed) was used to compare the resource room and nonhandicapped children.

itself significantly affect the on-task behavior of the resource room students.

3. Factors Influencing Attending

Regular education classrooms were divided into two groups, those with above average and those with below average attending by handicapped children. The descriptions of these classrooms were compared to determine factors which seemed to affect the performance of resource room children in regular education.

Factors positively influencing the performance of resource room children in regular education:

1. The resource room students were intermixed in the class (rather than seated apart, in the front or the back of the classroom, or with the student's desk turned away from the class or teacher).
2. The entry and exit of resource room children coincided with the beginning and end of periods, tasks, etc.
3. The teachers made efforts to include the resource room children in the ongoing activity as soon as they reentered the classroom
4. Before resource room stucents left the classroom, they were tolc what would be expected of them when they returned to the classrocm
5. The resource room children were called upon to respond as frequently as were the nonhandicapped children
6. The teacher permitted students to assist each other with task work when appropriate

7. The teacher conveyed the expectation that all children could complete the work
8. The teacher used within class groupings to accommodate children at different skill levels
9. The class was sufficiently orderly and quiet so as to be reasonably free of distractions. Students could hear each other respond and could always see and hear the teacher.
10. Students were encouraged to ask for help and ask questions when something was not clear

Factors detracting from the performance of handicapped students in regular education:

1. The handicapped students were seated on the edge of the group
2. The students entered and left the classroom in the middle of tasks or activity periods.
3. No attempts were made to tell students what to do upon reentering the classroom after their stay in the resource room
4. The resource room children were used to run errands or perform routines (e.g., watering plants, cleaning tables) which further took away from their instructional time in regular education
5. The classroom was visually or auditorally distracting, which adversely affected those resource room children with attention deficits

6. The resource room children had difficulty comprehending oral and/or written directions for work, but repetition or explanation of these directions was not provided
7. The teacher made negative comments about the resource room program, about the absence of the resource room children from the regular classroom, and/or about the abilities of the resource room children
8. Few or no ability groupings were used
9. Children were not expected to attend when their peers responded individually to questions or directions
10. Not all children were systematically included in discussions.
11. Classrooms with poor teacher management, high noise levels, confusion, etc. adversely affected the attending of both resource room and regular education students.

4. Teacher Concerns

Four resource room and five regular education teachers responded to the questionnaire about the functioning of the resource room students in regular education. While this response rate was low, the teacher comments provide insights into factors influencing program success.

Amount of contact between resource room and regular education teachers serving the same children was infrequent, according to the questionnaire results. Seven respondents held scheduled meetings rarely or never; one had meetings two times a year; and

one had meetings once a month. Only two of the nine teachers had ever visited the other classroom serving their students. The main contact between teachers consisted of informal chats: one teacher had daily chats; two had chats one a week; two had chats once a month; and four had chats fewer than once a month. Six of the nine teachers requested more frequent contact with the other teacher serving their students.

According to questionnaire results, coordination between the regular education and resource room curriculum occurred solely at the teachers' discretion, via infcrmal discussions or exchanges of lesson plans. Six of the nine teachers felt the need for greater curriculum coordination, including exchange of materials (e.g., basal texts) used.

Carryover of skills learned in the resource room into regular education was felt to be "good" by only one teacher (the teacher who had the greatest contact with regular education). One resource room teacher assumed carryover was good because the students performed well in the resource room. One teacher did not know. Six teachers said carryover depended on such factors as: the amount of interaction between the teachers; the use of praise, encouragement, close supervision, and/or extra direction by the regular education teachers; whether the skills taught in the resource room exactly matchec those taught in regular education; and the degree of the students' learning problems.

The overall performance of resource room students in regular education was felt to be affected by: the amount of

teacher-teacher cooperation; attitudes of nonhandicapped peers; the attitude and selection of the regular education teacher; the number of regular education students in the class; the child's ability to attend and do regular education work; and the consistency of the program. Three teachers commented that the apparent expendibility of the resource room program when extra "coverages" were needed seriously hampered the effectiveness of the program.

Most teachers saw some benefits from the resource room-regular education program. Three teachers mentioned the lack of stigma associated with placement in a resource room (as opposed to the labeling associated with placement in self-contained special education programs). Three teachers felt that students gained confidence in their ability to learn, positive feelings about school, and a sense of accomplishment from the resource room. Five teachers stated that the program met the learning needs of the children. Three teachers also commented that resource room-regular education programs were not successful if the resource room children were unable to complete the required academic work or had difficulty following group directions. One regular educator stated that the needs of resource room students could not be served adequately in large regular education classes.

D. Paraprofessionals in the Classroom

1. Paraprofessional Time Utilization

Paraprofessionals are assigned to the CEH and NIEH class-

rooms in District 27. In addition, some schools rotate paraprofessionals among the HC30 classrooms. The data below are based on observations of paraprofessionals in the CEH and NIEH classes and also, where present, in the HC30 classes.

The data for all observations of paraprofessionals were averagec to obtain a description of paraprofessional time utilization in special education classrooms. These data are presented in Table 11.

About half of paraprofessional time was spent in instructional activity of some kind (instructing groups, instructing individuals, giving assignments, monitoring work, or providing answers). However, the variance in this percentage was 32. In 11 of 53 observations, paraprofessionals were used instructionally 25% of the time or less.

An average 30% of paraprofessional time was spent on such things as leading routines, doing deskwork, disciplining, maintaining the room, and preparing materials. These functions presumably aided the smooth functioning of the class but were not directly related to child instruction. Again, there was a large variance in this amount. In 9 of 54 observations, paraprofessionals were used in this manner 50% of the time or more.

Finally, an average 20% of paraprofessional time was spent in other activities, such as interaction with non-students, personal activity, or temporarily absent from the classroom. In 13 of 53 observations, paraprofessionals were used in this manner

Table 11
Utilization of Paraprofessional Time

| Activity | Percentage of Para Time Spent in Activity | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|
| Instruction (whole group, small group, one-to-one) | 28.3% | 30.4 | 0 | 100 |
| Assignments/directions | 1.8% | 5.6 | 0 | 37 |
| Monitoring | 19.7% | 22.4 | 0 | 97 |
| Answers/grades | 2.3% | 7.2 | 0 | 43 |
| Discipline | 2.7% | 6.8 | 0 | 39 |
| Deskwork | 10.4% | 22.3 | 0 | 100 |
| Room maintenance, materials | 9.2% | 15.0 | 0 | 61 |
| Routines | 6.7% | 12.2 | 0 | 50 |
| Interact with non-students, absent, personal activity | 18.9% | 25.9 | 0 | 94 |

| Combined Activities | Percentage of Para Time Spent in Activity | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|
| Activities related to instruction[a] | 52.0% | 31.6 | 0 | 100 |
| Classroom routines and chores[b] | 29.0% | 26.4 | 0 | 100 |
| Other activities[c] | 19.0% | 25.9 | 0 | 94 |

[a] Instruction, assignments/directions, monitoring, answers/grades.

[b] Discipline, deskwork, materials, room maintenance, and routines.

[c] Interact with non-students, absent, personal activity.

25% of the time or more.

In 15% of the observations in CEH/NIEH classes, where paraprofessionals were expected to be present, there was no paraprofessional present during the observation period. It was not clear if the paraprofessionals were absent from school, on errands, or reassigned to another classroom. Under such circumstances, active and consistent paraprofessional participation in instruction was necessarily made more difficult. Paraprofessionals were most ofter used for instruction in classes where they were present consistently. However, not all classrooms with paraprofessionals consistently present used these paraprofessionals instructionally. Regular presence in the classroom thus appeared to be a necessary but not a sufficient condition for instructional use of the paraprofessional.

2. Teacher and Student Activities

The classroom observations were divided into two groups, those in which a paraprofessional was present and those in which a paraprofessional was not present. The activities engaged in by both teachers anc students within the two groups were then compared using an analysis of variance for each category. The results are presented in Table 12.

Presence of a paraprofessional did not have significant impact on the amount of teacher time spent in whole-group or small group instruction, in giving assignments, in monitoring work, in giving answers/grades, in giving tests, or in doing deskwork. However, the classes in which a paraprofessional was

Table 12

Teacher and Student Activities:
Paraprofessional Present vs. Not Present

| Teacher Activity | Percentage of Teacher Time in Activity: Para Not Present | Para Present | Level of Significance [a] |
|---|---|---|---|
| Whole group instruction | 27.7% | 23.4% | -- |
| Small group instruction | 5.6% | 9.3% | -- |
| One-to-one instruction | 19.1% | 8.9% | $p < .01$ |
| Assignments/directions | 11.4% | 13.0% | -- |
| Monitoring | 13.1% | 12.9% | -- |
| Answers/grades | 6.5% | 4.4% | -- |
| Giving test | 1.2% | .7% | -- |
| Disciplining | 3.4% | 6.8% | $p < .10$ |
| Deskwork | 3.0% | 2.4% | -- |
| Room maintenance, materials | 3.0% | 5.7% | $p < .10$ |
| Routines | 4.4% | 7.9% | $p < .10$ |
| Interact. with non-students | 1.8% | 5.5% | $p < .01$ |
| Overall Academic time use [b] | 84.7 | 72.7 | $p < .01$ |

| Student Activity | Percentage of Student Time in Activity: Para Not Present | Para Present | Level of Significance |
|---|---|---|---|
| Attending | 38.8% | 34.8% | -- |
| Unison, individual responding | 7.8% | 13.8% | $p < .01$ |
| Individual work | 38.8% | 31.4% | $p < .10$ |
| Taking test | 2.6% | 0.7% | -- |
| Student-led groups | 1.1% | 0.6% | -- |
| Routines | 2.7% | 7.1% | $p < .01$ |
| Waiting | 6.8% | 10.7% | $p < .05$ |
| Obtaining materials | 1.4% | 1.0% | -- |
| Overall academic time use [c] | 89.1% | 81.2% | $p < .01$ |

[a] A one way analysis of variance was used to determine differences

[b] The first seven teacher activities were combined.

[c] The first five student activities were combined.

present had significantly less teacher time ($p < .01$) spent in one-to-one instruction of students than did classes in which no paraprofessional was present. Presence of a paraprofessional was associated with a higher percentage of teacher time spent in discipline ($p < .10$), materials preparation and room maintenance ($p < .01$), routines ($p < .01$), and interacting with nonstudents, absent, or engaged in personal activity ($p < .01$) than in classrooms without a paraprofessional. Contrary to expectations, the presence of a paraprofessional in this study therefore did not "free the teacher" from routines, discipline or other chores during class time. Rather, presence of a paraprofessional was associated with an increase in teacher class time spent in these types of activities.

The time students spent in various activities was also examined in classrooms in which a paraprofessional was present versus classrooms in which a paraprofessional was not present. See Table 12. Presence of a paraprofessional had no impact on the percentage of student time spent in "watch and listen" activities, taking tests, obtaining materials, or working in groups with other students. The last finding was surprising, since presumably such group work by students would have been easier to conduct in classrooms containing a paraprofessional. This finding was, however, in contradiction to the instructional rating results. (See Section 4 below.)

Students spent significantly more time in individual responses to the teacher (or para) in classes with a

paraprofessional, but spent significantly less time ($p < .10$) in individual work when a paraprofessional was present than when a paraprofessional was absent. However, students also spent significantly more time in classroom routines and in waiting in those classrooms containing a paraprofessional.

3. Student Time on Task

The classroom observations were divided into two groups, those during which a paraprofessional was present and those during which a paraprofessional was not present. The percentage of student on-task behavior during various teacher and student activities was then compared using a one way analysis of variance. One would have expected that the presence of a paraprofessional would have been associated with a higher level of student on-task behavior. On the contrary, according to the data presented in Table 13, the presence of a paraprofessional was not associatec with any increase in student on-task behavior for any of the variables studied. In fact, total student attending was identical in both groups of classrooms.

4. Instructional Ratings

The ratings of 15 dimensions of instruction in classrooms with and without paraprofessionals were compared. The median test was used to ootain and compare the number of ratings in each group which were greater than versus less than or equal to the median rating. The results of this comparison are presented in Table. These comparisons confirmed the findings described above;

Table 13
Student On-Task Behavior:
Paraprofessional Present vs. Not Present

| Teacher Activity | Percentage of Students On-Task: Para Not Present | Para Present | Level of Significance[a] |
|---|---|---|---|
| Whole group instruction | 75.7% | 81.1% | -- |
| Small group instruction | 81.8% | 83.9% | -- |
| One-to-one instruction | 79.8% | 81.5% | -- |
| Assignments/directions | 82.1% | 81.6% | -- |
| Monitoring | 79.5% | 82.5% | -- |
| Answers/grades | 80.0% | 73.3% | -- |
| Testing students | 95.3% | 100.0% | -- |
| Disciplining | 70.5% | 73.2% | -- |
| Deskwork | 77.6% | 77.9% | -- |
| Room maintenance, materials | 78.5% | 77.8% | -- |
| Routines | 83.2% | 80.3% | -- |
| Interacting with non-students | 82.2% | 83.5% | -- |
| Overall academic time use[b] | 79.9% | 80.9% | -- |
| **Student Activity** | **Percentage of Students on-Task: Para not Present** | **Para Present** | **Level of Significance** |
| Attending to "watch and listen" | 80.2% | 79.3% | -- |
| Unison, individual responding | 95.2% | 94.6% | -- |
| Individual seakwork | 77.3% | 74.6% | -- |
| Taking test | 90.1% | 100.0% | -- |
| Student-led groups | 91.5% | 86.5% | -- |
| Routines | 89.8% | 89.2% | -- |
| Waiting | 88.8% | 88.0% | -- |
| Obtaining materials | 89.6% | 85.1% | -- |
| Overall academic time use[c] | 78.7% | 78.3% | -- |
| Total attending | 80.1% | 81.0% | -- |

[a] A one-way analysis of variance was used to determine differences between the groups.

[b] The first seven teacher activities were combined.

[c] The first five student activities were combined.

in general, the presence of a paraprofessional did not increase the effectiveness of the classrooms on the dimensions rated. Classrooms with paraprofessionals were rated significantly higher than those without paraprofessionals on only two dimensions: within class groupings ($p<.05$) and teaching of socialization skills ($p<.05$). Classrooms without paraprofessionals had clearer (more apparent) lesson objectives, more use of one-to-one instruction, and more tendency to use special techniques ($p<.10$). In all other dimensions, there were no significant differences between classrooms with and classrooms without a paraprofessional.

Table 14
Ratings of 15 Dimensions of Instruction:
Classes with vs. Classes Without a Paraprofessional

| Dimension of Instruction | Percentage of Classrooms Frequently Displaying Dimension (Median = 2.0)[a] Para Present | Para Not Present | Level of Significance[b] |
|---|---|---|---|
| High expectations | 32% | 26% | -- |
| Clear objectives | 52% | 40% | $p < .10$ |
| Orderly classroom | (median = 3.0) | | |
| Teacher-led lessons | 30% | 23% | -- |
| Individual Seatwork | 48% | 40% | -- |
| One-to-one instruction | 24% | 13% | $p < .10$ |
| Practice Activities | 17% | 19% | -- |
| Amount of Feedback | 29% | 21% | -- |

| Dimension of Instruction | Percentage of Classrooms Sometimes Displaying Dimension (Median = 1.0) Para Present | Para Not Present | Level of Significance |
|---|---|---|---|
| Individualized Assignments | 45% | 40% | -- |
| Within-class groupings | 18% | 30% | $p < .05$ |
| Special techniques | 19% | 9% | $p < .10$ |
| Contingent reinforcement | 27% | 30% | -- |
| Data collection | 11% | 6% | -- |
| Teaching of socialization | 20% | 32% | $p < .05$ |
| Teaching for generalization | 23% | 21% | -- |

[a] A three-point rating scale was used: "3": frequently; "2": sometimes; "1": rarely or never observed.

[b] A Mann-Whitney U test for independent samples was used to determine differences between classrooms with and classrooms without a paraprofessional.

# IV. Discussion

## Model Classrooms

Fourteen special education teachers (CEH, NIEH, HC30, and resource room) were identified as model teachers--that is, highly effective in their particular program on the dimensions examined by this study. These teachers represent a source of strength within the District 27 special education program and are a potential resource for the district.

### Recommendations

1. Model teachers within special education programs should be identified and utilized in some way within the district's ongoing staff development and curriculum improvement efforts.

2. The characteristics of model classrooms could be translated into target objectives for program improvement.

## A Comparison of Resource Rooms and Self-Contained Classes

Although some self-contained classrooms observed were highly effective and some resource rooms displayed several "problem" characteristics, the instructional environment of the resource room program was, on average, more effective than that of the self-contained special education classrooms on several dimensions examined. The resource rooms used time more efficiently and devoted more teacher and student time to instruction than the self-contained special education programs. Students were given more opportunity for one-to-one contact with the teacher and for individual responding. Students in resource rooms also displayed

superior on-task behavior and received more teacher support (attention, feedback, and reinforcement) for their efforts, which certainly could have influenced time on task.

The differences between resource rooms and CEH/NIEH classes could not be acccunted for by differences in pupil-teacher ratios, which were identical due to the presence of a paraprofessional. Student characteristics may account for some of the differences between the programs, but in many cases students in all programs were performing near grade level work and were meeting the behavioral expectations of the classroom. Some other factors may account for these differences, such as teacher background or training; the generic nature of the resource room; and/or the limited but intensive time which students spend in the resource room.

Recommendations

1. The resource room program should be continued and if possible expanded. Whenever stucent academic skills and behaviors are sufficient, children in self-contained special education classrooms should be considered for placement in resource rooms.

Individual Seatwork and Teacher-Led Lessons

The most frequent student activity in special education was individual seatwork. In some cases, the seatwork coordinated with a previous teacher-led lesson. In other cases, the seatwork was used not as a practice activity but to present new information, concepts, or skills. Often, no verification that the students had actually learned the desired concept or skill was seen,

although the worksheets were checked for correctness.

The emphasis on individual seatwork in most classrooms was accompanied by a corresponding deemphasis on teacher led lessons. In many classes, no teacher led group lessons at all were observed.

Several questions need to be asked about this emphasis on seatwork and deemphasis on teacher led lessons. Are handicapped students able to learn new information solely via seatwork? Do they understand the purpose for the seatwork activities? Are they able to ask appropriate questions when they do not understand the material? What is the effect on the teacher-student relationship when so much time is spent on seatwork? Why has whole group instruction been deemphasized? Are teachers equating indivicual seatwork with individualized instruction? Are they comfortable teaching group lessons? If students participate in group lessons infrequently, will they be able to learn group attending skills such as focussing on the speaker, listening to and following group directions, asking relevant questions, waiting their turn, etc.? If handicapped students do not learn these skills, will they ever be able to make the transition into a regular educatior environment where there is a high proportion of whole-group instruction?

Recommendations

1. There needs to be a balance in the proportion of the school day spent on group instruction, one-to-one instruction, and seatwork.

2. Completion of seatwork needs to be accompanied by teacher verification that students have indeed learned the concepts supposedly practiced in seatwork activities. This verification requires more than simply checking seatwork for correctness.

3. Special education students need to be taught new information via group instruction and need to learn group attending skills.

Selection of the Curriculum

In some special education classes, the observed curriculum appeared appropriate. The curriculum followed a clear sequence, was related to previously learned skills and was within the students' abilities. The activities selected to implement the curriculum were neither too hard nor too easy. Unfortunately, in other classrooms, the teacher was unfamiliar with the curriculum content. Furthermore, the curriculum appeared selected at random rather than linked to student learning needs, and the teachers did not know where within the curriculum the students were functioning. Emphasis in these classes was on completing work rather than on learning skills.

Recommendations

1. Some of the special education teachers need guidance on curriculum selection. Program-wide policies on curriculum may need to be re-emphasized.

2. Teachers need to be trained to relate the curriculum to the students' learning needs and goals, which are presumably written in the students' evaluations and Individualized Educa-

tional Programs (IEPs). Are IEPs being used to assist in curriculum selection?

3. Teachers need strategies for selecting and implementing curricula at different student skill levels.

Infrequently Used Instructional Techniques

Although occurring in many "model" classrooms, the study's findings revealed that the following techniques were rarely used in the majority of district classrooms: within-class groupings, special techniques, contingent reinforcement, teaching of socialization skills, teaching for generalization, and collection of data.

Recommendations

Ongoing staff development should focus on making improvements in the following areas:

1. arrangement of within-class groupings. Within-class groups would assist teachers in individualizing instruction while at the same time allowing the teaching of skills in a group context (which promotes group attention and social interaction skills). Such groupings would also increase the ability of teachers to select appropriate curricula for the students.

2. use of special instructional techniques, such as verbal cues and prompts, physical prompts, reduction of distractions, teacher-made materials, self-correcting materials, systematic correction procedures, instruction matched to students' perceptual modalities, etc. Training teachers in the use of such techniques would increase the effectiveness of instruction generally

and might assist teachers with particularly difficult-to-teach children.

3. contingent use of reinforcement. Very little positive reinforcement was seen; where used, it was not implemented effectively or contingently.

4. behavior management. Ineffective and too frequent discipline in several self-contained classrooms indicated a training need in behavior management skills for those teachers. Even in classrooms where discipline was more effective, few systematic behavior management programs were observed. Since many of the students observed were evaluated as having social and emotional problems, this finding was surprising. Behavior management programs could both improve student behavior and prepare students to function in other environments. Such programs should be both part of the classroom structure and written into the students' IEPs. It is recommended that teachers receive training in the following: planned ignoring of inappropriate behavior; selection of reinforcers, including activity reinforcers; proper use of token reinforcement; selection and consistent use of appropriate punishers; and consistency in behavior management.

5. teaching of socialization skills. There are many curricula for teaching social skills to handicapped elementary aged children. Since many of the students observed had deficits in this area, teachers might want information about such programs and support for their use. Some of these programs involve formal lessons, while others may be used throughout the daily routine.

6. teaching students to generalize. Most children do not automatically transfer information learned in one setting or one context or with particular materials to other settings, contexts, or materials. Generalization is a process with which handicapped children especially have difficulty. The teachers who did attempt to teach students to generalize did so effectively, but such efforts were few and far between. Teachers need to be made aware of the importance of generalization and provided with techniques for "teaching for generalization."

Use of Paraprofessionals

Some paraprofessionals were used very effectively to provide small group instruction and feedback to students and to monitor student work. In other words, they made a significant contribution to the instructional program. On average, however, paraprofessionals were not used effectively and therefore there were no differences in program structure or student time on task between programs containing and not containing a paraprofessional. Their presence was furthermore associated with an increase and not a decrease in the amount of teacher time spent on routines, materials preparation, etc. It is possible that the paraprofessionals observed lacked skills in instruction and in interacting with students. The teachers may have been unable to train them to work more effectively in the classroom.

Although this study supports the conclusion that most paraprofessionals were not used well, it does not support the withdrawal of paraprofessionals from self-contained classrooms.

Recommendations

1. The district's policy on the use of paraprofessionals in the classroom needs to be communicated to and followed by the teachers.

2. The selection and training of paraprofessionals needs to be examined. Paraprofessionals may need incentives to learn new skills and teachers may need incentives to train them. The district may want to consider provicing paraprofessionals to those classrooms where they will be used instructionally.

Resource Room Children in Regular Education

The following were the major findings regarding the resource room children in regular education:

1. Many resource room children were on task equally as well as regular education students

2. The average time on task for resource room students was lower than for their nonhandicapped peers, but the magnitude of this difference was small. Any discrepancy, however, is of concern because of its potential cumulative effect.

3. The resource room children observed were no more disruptive than their nonhandicapped peers, and were not disciplined or removed from the class more often. Any presumption that these children behave far worse than their peers was not supported.

4. Overall class time on task had only a slightly positive effect on the on-task behavior of the resource room children.

5. The regular education teacher's techniques, class

arrangement, and attitudes had a great impact on the ability of resource room students to do well in the regular classroom. Thus, the characteristics of the regular education teachers, as well as student abilities, were determining factors in the performance of the resource room children.

6. There was minimal contact between resource room teachers and the regular education teachers serving resource room students. Teachers responding to the questionnaire requested more contact and felt it would strengthen the program.

7. Carryover of student skills learned in the resource room into regular education was a problem. This problem was compounded by the lack of teacher-teacher contact; poor coordination of the curriculum; and lack of specific teaching for generalization. It was therefore not surprising that children tended to stay on task and were perceived as achieving more in the resource room than in regular education.

8. The structure of the resource rooms and regular education classrooms--in terms of typical teacher and student activities--were different. This discrepancy, while perhaps desirable, may affect the ability of some resource room students to function well in both environments.

Recommendations

1. More contact between regular education and resource room teachers needs to take place. If contact time is currently provided within teachers' schedules, then there must be building-level administrative support and direction for its use

in this manner. If scheduled contact time is not currently provided, consideration should be given to establishing and effectively implementing such contact. Teachers' schedules should coincide and their classrooms should be in close proximity.

2. Methods should be established to ensure curriculum coordination between the resource rooms and regular education classes.

3. Resource room children should be taught learning processes as well as particular skills in the resource room; they then need to be taught to generalize these processes to the regular education environment.

4. Not all regular education classrooms are suitable placements for resource room children. Regular education teachers serving these children should be handpicked on the basis of their attitudes and abilities to deal with diverse children. Perhaps these regular education teachers could be provided with extra support, in the form of part-time paraprofessional assistance, curriculum resources, workshops, release time for meetings, etc.

5. Successful mainstreaming efforts should be shared with other teachers at the building level to gain recognition for these successes and increase teacher awareness and support of mainstreamining.

6. Regular educators and resource room teachers need to assume joint responsibility for the success of the resource room children in regular education. This sharing of responsibility

could be encouraged through meetings, team teaching, sharing of materials, or classroom visits.

APPENDIX A: Data Collection Form

Page ____ of ____

Teacher:_____ School:_____ Program:_____ Date:_____ Obs:_____

Subject/
Activity

TIME: [ ]

| |
|---|
| instruction—lg. |
| instruction—sm. |
| instruction 1-1 |
| assign/directns. |
| monitor work |
| answers, grades |
| give test |
| discipline/beh. |
| deskwork |
| materials |
| classrm. routines |
| inter. non-S's |
| social inter. S's |
| personal actv. |
| absent from room |
| rm maintenance |
| |
| attend |
| partic. unison |
| indiv. response |
| indiv. work |
| take test |
| correct work |
| work in gp. |
| classrm. routine |
| wait |
| materials |
| free choice |
| expec. unclear |
| |
| |
| |
| |
| |
| |

APPENDIX B

## Data Collection Procedures

### Teacher Activity

Every 30 seconds, observe teacher and paraprofessional for a few seconds to determine their primary behavior or activity at that point in time. Then record T (teacher) or P (paraprofessional) in the first column on the data sheet in the appropriate row, depending on their behavior. Divide coding box if necessary if both adults are engaging in the same activity or behavior. [T/P] Teachers may appear to be engaging in two or more behaviors at once during the observation interval. If this is the case, record the primary or most obvious behavior, not brief "side comments" or momentary behaviors.

When recording teacher activity, choose from among the following behaviors (definitions follow):

direct instruction to large group
direct instruction to small group
direct instruction to individual child
give assignments or directions
monitor students
answers, grades
administer test or assessment

discipline/behavior management
"deskwork"
materials
classroom management routines

interact with non-students
personal activity
social interaction with students
absent from room
room maintenance

After you have coded the teacher, the teacher's activity may change while you are observing and coding student behavior Ignore these changes. You have already recorded the teacher behavior for that 30 seconds and will do so again soon.

Before data collection begins, select the children you will be observing according to child selection procedures. List and number the children you are observing at the bottom of the data sheet (four children.) After you have observed and coded teacher activity, observe the expected activity for the four children. Code each child's expected activity separately by number. If all children are expected to be engaged in the same activity, check (✓) the box. The code + or - beside each child's name to indicate whether or not the child is engaging in the expected activity.

Choose from among the following expected child activities:

attend
participate in unison
provide individual response (under teacher supervision)
do individual work
take test
correct work
work in group of peers
nonacademic routines
wait for teacher or peers
free choice
expectation unclear
Materials

Definitions of each child behavior follow.

Time sampling: 30 second "cycles"

You will observe and code three variables: teacher activity, expected student activity and student engagement. Each "cycle" of observation--observing and recording adult activity, then observing and recording student activity and engagement--should take 30 seconds. As soon as one 30 second "cycle" is complete, begin observing the teacher again. Maintain pace. Continuing observing for the time allotted. Then record general impressions about the class on the sheet provided.

Headings on Data Collection Sheets

Fill headings out before beginning data collection. (except for activity and times). Use as many data collection sheets as are necessary for the time allotted to observation. One data sheet will be ised everu 12-15 munites. Be sure all the information in the heading of the data sheet is filled out for each data sheet. Briefly note content or subject of each lesson above the appropriate columns. Draw a horizontal line and provide another description every time the content or subject changes. Keep up pace of data collection. If your mind wanders , stop at end of page and take a minute or two break, then resume.

Interruptions

The classroom may be interrupted from time to time, by a PA announcement, fire drill, visitor from another room who comes to interact with the students (e.g., make an announcement to the class, take pictures, etc. When the interruption occurs, draw a vertical line after the last observation column. Record the clock time when the interruption begins and when it ends. Draw another line and then continue data collection. Use the same procedure if you are interrupted for any reason, such as the teacher talking to you. However, discouraged these interruptions. Tell the teacher you don't want to take his/her time away from the class, and that you can talk some time when the students are not there. Note the difference between an "interruption" of the class and those times when the teacher "interacts with a nonstudent," which is coded.

Coding Definitions: Teacher Activity

Direct Instruction: large group

Teacher provides information, explanation, review, feedback, lecture, questions, examples to the whole class or major portion of the class. A few children may be receiving small group or 1-1 instruction with another person (paraprofessional or student teacher). Direct instruction also includes teacher working with one child "in front of" whole class, while other children are supposed to attend to and profit from the teacher's instruction to the child.

If teacher intersperses direct instruction with correcting, monitoring, or behavior management for very brief periods, of time, still count this as direct instruction.

Direct Instruction--small group

Same as to large group, except to 1/2 of class or less.

Direct instruction--one-to-one

Same as to large group, except teacher is working directly with one child only, and the rest of the children are not supposed to be attending to or benefitting from the exchange. May be of short duration, but should be more than minimal feedback to an individual, such as a brief "OK," "keep it up," "good," etc.

A common example of one-to-one instruction is when the teacher walks around the class while students are working individually, and provides instruction and feedback to one student at a time.

Monitor students' work

Teacher watches students do work or listens to student/responses without comments or instruction. This may be done with individuals or groups. Teacher may or may not circulate. If the teacher assists or correctsthe student, this becomes direct instruction. Monitoring may include minimal evaluative comments, e.g., "good," "no," but these comments should not be of long duration. If the teacher monitors a nonacademic activity, such as the bathroom routine, this is coded as "classroom management routines."

Monitoring must be sustained observation, not occasional glances at students. If teacher is at desk working and occasionally glances at students, record "deskwork." If teacher reprimands class or individuals about behavior in more than a momentary way, code behavior management and not monitoring.

If para observes teacher giving a lesson, record this as monitoring for the para.

Assignments/directions for work

Teacher gives assignments or directions to students which are necessary for students to begin work, engage in work, or complete their work. This can be done orally or by teacher writing an assignment on the board. This category includes such statements as "get out your _____ books." "Pass out these papers" (or teacher distributes work papers and materials).

Teacher directs students to get encyclopedias from shelf, etc. "Do pages ___ to _____"; teacher gives information about format, heading, time limits, numbering of pages, number of pages to do, criteria of performance (how many they must complete or get correct, grading scale, etc.).

If teacher explains to students how to do the content of an assignment, this is direct instruction. Example: "everyone look; let's do an example together. . . ." is direct instruction.

Directions which are not about work are coded under class management routines.

Writing problems, examples, sentences, vocabulary words, etc. on board is coded as assignments/directions for work.

Administer test or assessment

Teacher administers a test, item by item, to the class or an individual. Teacher must actually be giving test items to students. If teacher does paperwork while students take a test, record "deskwork" for the teacher.

Answers and Grades

Teacher gives large group or individuals information on the correctness of their responses (right/wrong) or gives answers in a series. Main purpose is to give answers only, while students either attend or correct their work. Example: checking off correctness of answers to problems worked on board; giving the correct spelling of words; reading answers to math homework; or having the students read the answers in succession; marking answers on overhead for students to watch; correcting individual student work with student looking on. If the teacher works through problems, explains answers, or questions students about answers, code this as direct instruction.

Student must be required to attend to this process. If teacher marks papers or work with students not attending or participating in any way, this would count as "deskwork."

Also included in this category is discussing or assigning grades to student work. Teacher discusses grading scale or writes in on the board, tells the number of children getting certain grades, giving names of students and their grades. Recording grades in book at desk would be counted as "deskwork."

Discipline/Behavior Management or Control

Teacher corrects student misbehavior, enforces rules of appropriate conduct with individual or group, reminds students about appropriate conduct in future activity. Administer more than a momentary reprimand or punishment. Administer token reinforcement systems (e.g., give stars, points, happy faces). The only focus for this category is on student behavior or conduct. General or primary discussions about student conduct are included in this category ("Why are you all so figetty today?"). Code discipline/behavior management if the flow of work is interrupted and teacher's focus is behavior. If para reprimands a

student while the teacher is teaching, code "discipline/behavior management."

Deskwork

Teacher does class-related paperwork at desk or table, etc. Examples: lesson plans, grading papers, sorting papers, recording grades, writing reports, writing notes to parents. Teacher is not interacting with students. Teacher may from time to time look up at class, but watching students must be the teacher's primary activity before "monitoring" is coded. If there is a question as to whether or not the activity is class-related or personal, record "deskwork" rather than "personal activity."

Direct or administer nonacademic classroom management routines

Teacher engages in routines or directs students through these routines: taking attendance; leading pledge of allegiance; gathering of permission slips; taking lunch count; making school-related announcements about trips, recess, school events; setting up lunch tables and trays; administering bathroom procedures; directing students to get drinks; durecting students through a pencil sharpening routine; directing students to form groups, line up, get seated; rearranging physical position of students in any way. Teacher must actually be involved in the routine in some way (directing or administering or monitoring the routine). If the students are doing the routine completely on their own, and the teacher is doing something else, such as deskwork, record "deskwork" for the teacher. If there is any question as to the teacher's activity, code in this category.

Interact socially with students

Discuss or interact with students around non-school related topics, such as sports, weekend, TV shows, movies, politics. Purpose is social, conversational, or rapport building, etc.

Interact with Non-class Members

Teacher interacts with someone who is not a student in the class. Example: talk to para, talk to adult who comes into room or comes to door, talk on the telephone two-way conversation over PA system with office, talk to student from another classroom who comes to class on "errand." The topic of the interaction is not important. No matter what the topic, code "interact with non-class members." If the para and teacher converse, both would be recorded as "interact with non-class members."

Absent from Room

Teacher or paraprofessional is absent from room for any reason during the time when students are scheduled to be in class. However, if teacher steps into hall to talk to another person, record "interact with non-student," or to discipline a student, record "discipline behavior management." That is, if the teacher is right outside the door and you can be sure of what is going on, record another code.

Room maintenance

Teacher picks up paper, straightens shelves, desks, puts up bulletin boards, washes tables, cleans sinks, etc. However, if teacher directs students to do these things, record "classroom management routines."

Materials

Teacher makes or gathers materials for lessons. Teacher finds materials, puts away or stores materials. Teacher searches for dittoes, lesson plan book, grade book, teacher's edition, etc. Teacher makes dittoes, makes overheads, makes games, cuts out manipulative materials.

Personal Activity

Teacher or paraprofessional are engaged in activity which is clearly not related to the classroom, such as recreational reading. Or the teacher is unoccupied (e.g., looking out window). If there is a question as to whether the activity is class related or not class-related, code "deskwork." Example: the teacher may be reading, but the book may be one which will be discussed in class or read as a story.

Coding Definitions: Student Activity

Attending to academic or work presentation, assignments, discussion, etc.

Student is expected to attend to academic presentation by peer or teacher, listen to assignments or directions, listen to answers or questions or other students, watch work being done on board, watch film or audio-visual presentation. As long as the teacher (or someone else) is addressing the student, and the student is not expected to do anything except watch/listen, then the expectation is attending. If there is a question between attending and another code, record "attending."

+ student watches and/or listens; appears visually attentive and oriented toward speaker; student is not disruptive. Very brief comment to peer about the presentation is OK. Taking notes is OK.

- student does not look at speaker; talks to peer so that attention is not on speaker at all; makes noises or disrupts; fiddles in desk or writes on desk; stares out window, etc.

Participate in unison

Student is expected to participate in an assigned task or activity in unison with rest of class. Examples: sing, dance, "chorus" responding, reading or saying answer in unison, reciting poem with class.

+ student responds in unison

- student disrupts group; engages in irrelevant activity, remains silent and does not participate

Provide Response about Task

Student is expected to provide some kind of task response under teacher supervision, either in a group or one-to-one with teacher. Examples: participate when asked by teacher, when teacher is going around class calling on students in order, or when student volunteers to respond. Student could be required to provide many different types of responses: ask question, answer question, read in book, go to board, provide an answer to peer's question, etc. Either the teacher had created the expectation that the student should provide a response, or the student has created the expectation by volunteering.
(Responses to a test are coded under test)

+ student attempts to respond. Response may be correct or incorrect. student says "I don't know" (unless the student volunteered, in which case "I don't know would be counted (-)).

- student makes no response; disrupts the group; makes a negative comments, such as "this is stupid"; refuses to respond ("I can't"; "I don't want to"); etc.

Individual Work

Student is expected to do assigned academic work on his/her own without direct supervision. Usually at desk, but may be at board, learning center, etc. Students are supposed to do work on own, although they may be permitted to talk to peers about the work for brief periods of time. The teacher may have given assignment beforehand, or teacher may be giving directions step-by-step to whole class and students are supposed to do the work individually as teacher gives the directions

+ doing the expected individual work; brief discussions with peers about work permitted (if allowed by teacher; leaving seat to seek help from teacher, turn in work, obtain materials, read board, etc.

- staring or not doing anything; bothering others; disrupting class; engaging in nonassigned activity. Talking to others if talking is not allowed; excessive talking to peers. Leaving work area or desk to engage in a nonacademic routine, such as get water, sharpen pencil, go to coat closent, look at clock.

Take a test

Take a group or individually-administered test. The work must clearly be a test, rather than practice.

+ child attempts to answer. Answers do not have to be correct.

- child engages in avoidance of some kind (fiddles in desk, ties shoe, leaves seat to get drink or sharpen pencil; stares out of window or into space; refuses to respond; disrupts others; looks onto other student papers for answers ("cheats")

Work in Group

Student is expected to do assigned work in a group with one or more peers. Interaction and exchange of information is required and expected.

+ child participates in or attends to group, or does assignment that the group has given him/her

- child distracts others with irrelevant or off-topic comments; child disrupts group; child belittles others; child leaves group; child stays in group, but does not attend to others

Correct completed work

Child corrects own or other's work as answers are provided by teacher (orally or in writing on board or overhead) or peer. Correct own or other's work from an answer key. Correct spelling and punctuation errors in a composition, etc.

+ child attempts to make necessary corrections

- child does not mark work, but does nothing, does a nonassigned activity, or disrupt others

Engage in Classroom Routines

Child is expected or assigned to engage in a nonacademic routine, with or without teacher direction. Examples: bathroom, sharpen pencils, get water, line up, form groups, form teams, change seats, do room maintenance chores, hang up coats, get coats, put away or get lunch, pledge allegiance; eat lunch or snack in room. Some children may be assigned to do routines while others wait. Children doing routines are coded for "routines," while children who are waiting are coded as "wait."

+ child participates in routine without disrupting or bothering others. Talking is OK if this is permitted in class

- child refuses to participate in routine, engages in nonassigned activity, or bothers others

If child engages in routines at times when they are not assigned or expected (e.g., during individual work), do not code "routines" as the expectation.

Free Choice

Students select own activity and engage in it in group or individually. Activity is not assigned by teacher. Free choice may come at end of assigned activity as a time filler or may be used as a reward. Examples of free choice activities: games, reading from class library.

+ child chooses a permissible activity and engages in it, alone or with peers

- child chooses an impermissible ("off-limits") activity, wanders, bothers others, or does nothing

Wait

Children are finished with an activity and must wait for teacher to correct work or give additional work (e.g., students raise hands and wait for teacher to come to them for assistance or correction; or wait in desk until next assignment). Teacher becomes engaged and all students must wait since instruction stops (e.g., someone comes to door to talk to teacher). However, if children have something to do and should continue working on own, this would be recorded as "individual work." Or, some students are engaged in routines, materials distribution, and rest of children must wait.

+ children remain quiet and in place. Quiet talking permitted.

- children become excessively noisy, wander, or engage in impermissible activity

Materials

Child is assigned to: obtain materials from desk or another part of room; turn in completed work; collect materials; distribute materials to peers. Materials may include books, papers, dittoes, pencils, etc. A few students

may do this while others wait. The students who are waiting are coded under "wait."

\+ child obtains materials without disruption or getting sidetracked

\- child does not obtain (etc.) materials; refuses, becomes sidetracked, or bothers others

Children sometimes get materials during individual work. Do not code "materials" unless the student has been assigned by teacher to do something about materials. Getting appropriate materials during individual work is coded as "individual work."

Expectation unclear

If you do not have any idea what the expectation is, record "expectation unclear." Do not record (+) or (-).

Other Codes instead of (+) and (-)

A If child is absent from room for nondisciplinary reasons (e.g., errand or bathroom) record A for absent.

R If child is removed from group or made to stop work for disciplinary reasons, record R for removal. Examples: goes to principal's office; stands in hall, goes to corner, goes to "time out" room; stand in back of class; puts head down on desk; is made to do a punishing activity, such as writing sentences 100 times or washing boards.

## Appendix C: Observational Notes

Teacher:_____ Date:_____

Program:_____ Obs:_____

Lesson content:

Teaching strategy and methodology:

Congruence of methodology and lesson content:

Lesson sequence and flow:

Classroom atmosphere:

Teacher attitude:

pupil attitude:

Teacher sense of control:

Teacher involvement:

pupil involvement:

APPENDIX D

## Essential Features of Quality Instruction

| Instructional Elements of Regular Education | PLUS | Instructional Elements of Special Education |
|---|---|---|
| • high expectation (p) | | • instruction on individual needs (p) |
| • clear objectives (p) | | • task analyses skills into discrete steps (p) |
| • orderly atmosphere (p) | | • small-sequenced curriculum (p) |
| • academically focused (p) | | • modifies task components (p) |
| • administrative support and leadership (p) | | • high rates of practice for acquisition, proficiency, and maintence of a skill (t) |
| • defined and meaningful curriculum (p) | | • precise feedback on progress (t) |
| • teacher-directed activities (t) | | • precise language used for delivering instruction and for correcting errors (t) |
| • group instruction with adult supervision (t) | | • test-teach-test strategy (t) |
| • demonstration-prompt-practice strategy (t) | | • reinforcement for correct behavior (t) |
| • frequent evaluation of student progress (a) | | • direct teaching of generalization skills (t |
| | | • direct teaching of socialization skills (t) |
| | | • daily evaluation of student progress (a) |

p - pre-teaching
t - teaching
a - after-teaching

APPENDIX E

Ratings of Instruction

Name:_____
Date:_____
Program:_____
Observer:_____

Rate as follows: (3) most of the time: lots of evidence of the item
(2) sometimes; some evidence of the item
(1) seldom, rarely, not seen

_____1. High expectations (e.g., teacher insists on neat work, has students correct errors, teacher insists that students try, says things like "you can do it.")

_____2. Clear objectives for lessons (observer and students could easily tell what the objectives for the lesson were)

_____3. Orderly class atmosphere (students quiet, nondisruptive--noise and movement are appropriate, given the tasks in which the students are engaging)

_____4. teacher directed activities (teacher-led lesson)

_____5. individual student seatwork

_____6. individualization of instructional assignments (different assignments for different students)

_____7. teacher works with students individually

_____8. teacher breaks students into within-class groups for instruction

_____9. practice activities or drill activities were provided (to achieve student mastery)

_____10. Precise and frequent feedback given to students on their performance (correct performance and errors)

_____11. "special" techniques or language used to instruct or give feedback (modality instruction, special AV aids, removal of distractions, special materials, etc.)--must be obviously different

_____12. Contingent reinforcement of appropriate behavior

_____13. data collection by teacher or student charting of progress

_____14. direct teaching of socialization skills (appropriate behavior and interaction)

_____15. direct teaching of generalization (teaching students to apply material previously learned to new problems or situations)

APPENDIX F

Summary Evaluation

Teacher:_____ Program:_____
School:_____ Evaluator:_____

1. "Stage of learning" evident in curriculum (indicate number of lessons or parts of lessons demonstrating each stage)
   _____ new concepts presented, demonstrated, explained
   _____ review of practice with teacher guidance (e.g., teacher reviews concept on board, teacher assists child with individual work)
   _____ students practice on own, generally with minimal or no assistance (teacher may check at end of task)

2. Relationship of curriculum to overall regular education academic curriculum:
   1. no relationship
   2. some relationship
   3. highly related (typical of academic curriculum in reg. ed.)

3. Suitability of curriculum for students' abilities:
   1. too hard: lots of frustration; students attempted work but could not do it because they did not have the skills to do so (this is not the same as refusals to do work which stem from student behavior problems)
      or
      too easy: students could do work by rote or without much effort or knowledge (e.g., copying, rote reading assignments without comprehension, copying from others, busywork, matching tasks in which answers were obvious, etc.)
   2. at students' level
   3. challenging but within child abilities

4. Quality of curriculum content
   1. low: poor quality; unlikely that children learned anything (examples of possibly poor quality curriculum assignments: arts and crafts, busywork, class news)
   2. middle: routine and/or unexciting, but of sufficient quality that learning could occur
   3. high: interesting and creative and/or rigorous and academic

5. Teacher knowledge of curriculum content
   1. teacher unfamiliar: makes numerous errors in content presentation; can't provide examples or define terms; does not know how to explain content; can't answer student questions
   2. teacher familiar
   3. teacher very familiar and confident: explained easily, gave relevant examples, defined terms, reworded as necessary

6. Teacher planning and preparation

Teacher led lessons:
1. little or no planning: unsure of what's happening next, starts and stops, hesitant, frequent reference to teacher's manual or book, loses place, can't find materials
2. some planning and preparation: teacher lesson adequately prepared, but solely from commercial materials (manual, workbook) with no additions or modifications by teacher
3. much planning and preparation: well prepared lesson in which teacher went into depth in one area, digressed from commercial materials, brought in teacher-made materials, engaged in "enrichment" or extension activities related to lesson

Student individual work:
1. little or no planning: materials missing, broken, or unavailable; goals and procedures for individual student work unclear; confusion
2. adequate planning and preparation: materials present and available; materials are primarily texts or commercially prepared materials with little modification or addition
3. much planning and preparation: enrichment activities related to the curriculum; teacher-made worksheets or teacher-prepared materials; additional teacher-made examples; teacher has gone beyond commercially prepared materials

7. Pace
1. too slow: not much got done; slow moving lesson; too much time spent on one task, in preparation, or waiting
2. about right: the lesson moved along, but possibly more could have been done
3. good pace: much content covered in the time observed; teacher kept students moving through task; several student chances or examples

8. Child participation and involvement
1. discouraged: child expression of beliefs, feelings, ideas, questions are specifically discouraged or ridiculed
2. minimal/neutral: few opportunities for expression of child thoughts, questions etc. are available; teacher neutral
3. child is encouraged to express thoughts, beliefs, questions; teacher responds positively when child does so

9. Teacher praise of child efforts and abilities
1. teacher conveys belief that children can't learn or that slow learning is their fault; ridicules or comments unfavorably on child efforts or abilities
2. teacher checks work and gives children feedback but does not specifically praise child effotts or abilities
3. teacher expresses confidence in child's ability to learn; praises or comments favorably on child efforts and abilities

10. Teacher relationship with children
    1. minimal or authoritarian relationship; teacher seems to have established no relationship with children, i.e., remains distant and detached, and/or teacher's relationship with children is that of a disciplinarian or authority figure
    2. instructor: teacher's relationship with children is primarily that of an instructor
    3. instructor and model: teacher's relationship with children is that of an instructor and/or a friend, helper or model; teacher conveys feeling of caring about children and promotes child trust in teacher

11. Child-peer relationships
    1. negative: children are allowed or encouraged to belittle, fight with, or criticize peers
    2. neutral: child-peer interactions are infrequent and primarily task related
    3. positive: teacher structures and/or encourages positive child-peer relationships, e.g., children work in groups, are encouraged to help others, comment favorably upon peers' work, etc.

12. One-sentence description of content of each lesson seen (if two different, unrelated lessons seen in one observation, list each):

INSTRUCTIONS: For questions two through 11, circle the number which best summarizes your observations. If a teacher was inconsistent across your observations, you may want to circle <u>two</u> or <u>three</u> numbers, which will be averaged. Circling two or three numbers, where applicable, will help us get an idea of how consistent and/or inconsistent these curricular dimensions are.

APPENDIX G

Teacher Questionnaire and Cover Letter

St. John's University
GRAND CENTRAL AND UTOPIA PARKWAYS
JAMAICA, NEW YORK 11439

SCHOOL OF EDUCATION AND HUMAN SERVICES
105 Marillac Hall

TELEPHONE:
(212) 969-8000

Dear

Observations for our study of District 27 special education programs and child attending behaviors are now completed. A summary of the results will be written by the end of the school year and will be forwarded to the District 27 office. Thank you very much for your cooperation throughout the study.

Several teachers who participated in the study have requested the opportunity to make comments about their programs and about the special education children they serve. We are therefore attaching a questionnaire which will give you a chance to provide this information, share concerns, etc. Your comments will be a very valuable addition to the study.

The results of the questionnaire will be summarized by program. All responses will be confidential and anonymous.

Please return the questionnaire in the attached stamped envelop. (Your participation is, of course, voluntary.)

Thank you for your time and assistance.

Sincerely,

Gail Walter

Gail Walter, Ph.D.
Assistant Professor

Questionnaire
Resource Room Teachers

1. What types of contact do you have with the regular education teachers of children in your classroom? Circle all that apply and indicate how often each occurs.

scheduled meetings:_____
informal chats (hall, lunchroom, etc.):_____
written notes:_____
he/she observes in your classroom:_____
you observe in his/her classroom:_____

2. Would you like more contact? What type of contact? What could be done to increase the contact you have with the regular teachers?

3. What is currently being done to coordinate the regular education curriculum and the resource room curriculum?

4. What could be done to improve the coordination between the regular education and the resource room curriculum?

5. Do the resource room children "carry over" the skills they learn in the resource room into the regular education classroom? Why or why not?

6. How do the following factors influence the performance of the resource room children in regular education:

skills and behaviors of the children themselves:

skills and behaviors of the regular education children:

administrative, scheduling considerations:

other:

7. What positive results have come from placement of resource room children in regular education classrooms?

8. Any problems with or concerns about this placement?

9. What are the benefits to <u>regular education teachers</u> of the resource room/mainstreaming program?

10. What are the benefits to <u>special education teachers</u> of the resource room/mainstreaming program?

Program: _____
(HC30, CEH, NIEH)

Questionnaire:

Self-Contained Special Education Programs

1. Describe the influence of the following factors on the ability of your students to stay on task:

difficulty of task:

reinforcement:

type of task:

student ability:

amount of teacher assistance provided:

group size:

type of teacher instruction:

other:

2. Approximately how much time during the school day do the children in your class spend:

doing independent individual work:_____
attending to teacher presentation:_____
receiving individual instruction:_____
involved in nonacademic classroom routines:_____

3. What determines the skills taught (curriculum) in your classroom:

4. What do you feel could be done to improve or change the special education curriculum?

5. After your classroom, what is the likely next educational placement for your students?

6. What would need to occur before your students could be placed in:

   a. a resource room:

   b. a regular education classroom

7. Other comments:

Questionnaire

Regular Education Teachers Serving "Resource Room" Students

1. What types of contact do you have with the resource room teachers of children in your classroom? Circle all that apply and indicate how often each occurs.

scheduled meetings:_____
informal chats (hall, lunchroom, etc.):_____
written notes:_____
he/she observes in your classroom:_____
you observe in his/her classroom:_____

2. Would you like more contact? What type of contact? What could be done to increase the contact you have with the ~~resource~~ resource room teacher?

3. What is currently being done to coordinate the regular education curriculum and the resource room curriculum?

4. What could be done to improve the coordination between the regular education and the resource room curriculum?

5. Do the resource room children "carry over" the skills they learn in the resource room into the regular education classroom? Why or why not?

6. How do the following factors influence the performance of the resource room children in regular education:

skills and behaviors of the children themselves:

skills and behaviors of the regular education children:

administrative, scheduling considerations:

other:

7. What positive results have occurred from placement of resource room children in regular education classrooms?

8. Any problems with or concerns about this placement?

9. What are the benefits to regular education teachers of the resource room/mainstreaming program?

10. What are the benefits to special education teachers of the resource room/mainstreaming program?

APPENDIX H

DATA SUMMARY FORM

Teacher:
School:
Date:
Program:

Time of Day:
Day of Week:
Number of Students:
Subject:
Para present:

| Teacher Activity | Summary of Teacher Activity | | Summary of Para Activity | | Summary of S's On-Task During Teacher Activity | | |
|---|---|---|---|---|---|---|---|
| | # of Intervals | Percent | # of Intervals | Percent | # S's on-task | # S's off task | % S's on-task |
| Instruction-lg. | | | | | | | |
| Instruction-sm. | | | | | | | |
| Instruction-1-1 | | | | | | | |
| Assign/directions | | | | | | | |
| Monitor work | | | | | | | |
| Answers/grades | | | | | | | |
| Give test | | | | | | | |
| Discipline | | | | | | | |
| Deskwork | | | | | | | |
| Materials | | | | | | | |
| Class routines | | | | | | | |
| Interact non S's | | | | | | | |
| Social inter. | | | | | | | |
| Personal activity | | | | | | | |
| Absent | | | | | | | |
| Room maintenance | | | | | | | |
| Total | | 100% | | 100% | | | |

(Data Summary Form cont.)

| Student Activity | Summary of Student Activity | | Summary of S's On-Task During Student Activity | | |
|---|---|---|---|---|---|
| | # of Intervals | Percent | # S's on-task | # S's off task | % S's on task |
| "watch and listen" | | | | | |
| Partic. in unison | | | | | |
| Individual responding | | | | | |
| Individual work | | | | | |
| Take test | | | | | |
| Correct work | | | | | |
| Work in group | | | | | |
| Class routine | | | | | |
| Wait | | | | | |
| Materials | | | | | |
| Free choice | | | | | |
| Expectation unclear | | | | | |

Total Student Attending

| | # on task | # off-task | # absent | # removed | Total % on-task |
|---|---|---|---|---|---|
| All S's | | | | | |
| Nonhandicapped S's (reg. ed) | | | | | |
| Handicapped S's (reg. ed) | | | | | |